

THE
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OF
MEDICINE:

A MONTHLY RECORD OF THE MEDICAL AND AUXILIARY SCIENCES.

That alone is the right medicine which can remove disease :
He alone is the true physician who can restore health.

Charaka Sanhitā.

EDITED BY
MAHENDRA LA'L SIRCAR, M.D., C.I.E.

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DISALLOWANCE OF HOME SEGREGATION
IN CASES OF PLAGUE—A MISTAKE
AND A DANGER.

IN VIEW of the alarming recrudescence of the plague in Bombay we deem it our duty to repeat what we have already so often said on the subject of home-segregation. We do not question for a moment the intention of Government in disallowing it. What has been resolved upon is, we believe, and we would ask our countrymen to believe, for the good of the people,—to protect them from the ravages of a disease the most dreadful and fatal that has been seen in the world from the remotest antiquity to the present day, which has hitherto baffled medical science so far as treatment by drugs is concerned, and, perhaps we may add, so far as that science is represented by the orthodox majority. For, it is still a fact, that, the heterodox minority, or the new school of homœopathy, has not yet had its trial in combating this scourge of mankind.

In this particularly technical matter Government had no other choice than to rely upon and be guided by expert opinion, the opinion of its medical department. When that opinion has pronounced

home segregation to be impossible and therefore useless, Government had no other alternative than to disallow it. And to ask Government to relax the rules already promulgated in favor of home segregation however partial would, it would appear, be asking it to do a thing which would be, in its belief, against the interests of the people whose welfare it is the supreme object of all Government to secure.

It must be evident, therefore, that Government can only be reached through its medical advisers, or more properly speaking through the Commission * which it has recently appointed under the name of the Plague Commission, in supersession or rather by enlargement of the Medical Board which it had appointed in October 1896, for the same object, namely to protect Bengal and especially Calcutta from the plague.

The selection of the gentlemen who have been appointed to constitute the Commission has been unexceptionable. There is very properly a majority of medical over lay members, there being twelve of the former and eight of the latter. The lay members, including the President, are all practical men distinguished for their ability and large general experience, capable of forming a sound opinion on general subjects from facts laid before them. In matters strictly medical, however, they cannot be

* The Plague Commission is composed of the following gentlemen :—

The Hon'ble H. H. Risley, C.I.E., Secretary to the Government of Bengal in the Medical Department	<i>President.</i>
The Hon'ble Sir Patrick Playfair, K.T., C.I.E.	...	...
The Hon'ble M. C. Turner	...	...
The President of the Bengal Chamber of Commerce	...	...
The Secretary to the Government of Bengal in the Public Works Department	...	...
The Inspector-General of Civil Hospitals, Bengal	<i>Members.</i>
The Sanitary Commissioner, Bengal	...	...
The Principal of the Medical College, Calcutta	...	...
Brigade-Surgeon Lieutenant-Colonel R. C. Sanders	...	...
Brigade-Surgeon Lieutenant-Colonel J. O'Brien	...	...
Brigade-Surgeon Lieutenant-Colonel C. H. Joibert	...	...
Brigade-Surgeon Lieutenant-Colonel E. G. Russell	...	...
Surgeon-Lieutenant-Colonel J. Lewtas	...	...
Surgeon-Major A. W. D. Leahy	...	...
The Inspector-General of Police, Bengal	...	...
The Chairman of the Corporation of Calcutta	<i>Secretary.</i>
Dr. Mahendra Lal Sircar,	...	...
Dr. Kailash Chunder Bose	...	...
Maulavi Zahir-ud-din Ahmed, Honorary Assistant Surgeon to His Excellency the Viceroy	...	...
Mr. W. Banks Gwyther, Under-Secretary to the Government of Bengal in the Public Works Department	...	...

expected to form an independent opinion of their own, nor to go counter to the opinion of the medical majority, and fortunately in this matter of the Bubonic Plague, medical opinion is unanimous as regards the necessity of isolation and segregation. So far there is no possibility of difference amongst members of the Commission, lay and professional. But there is one point in which opinion is divided amongst the medical members, and that is with respect to the possibility and feasibility of home segregation. All the medical members, with one exception, are opposed to home segregation. The member who believes in both the possibility and practicability of home segregation is the Editor of this Journal. Deeming it absolutely useless to discuss the matter at meetings of the Commission with such a majority against him he has felt it his duty to put his views as clearly as possible in these pages.

We have first to see what are the facts which may be considered as established beyond doubt.

Doubts are still entertained as to whether the disease can arise *de novo* or not. The same doubts may be said to hang over the etiology of other specific diseases, such as small-pox, scarlatina, measles, diphtheria, etc. Each of these must have had its origin at some definite time in the past, and therefore must have arisen *de novo*. Although this is an inference only, yet it is an inference which cannot be gainsaid, which must be allowed to have the same position as an established fact. Hence the question naturally arises, whether the very same conditions or circumstances, which gave rise to the first case or cases of an infectious disease, may not occur again in subsequent times, and thus occurring may not originate the disease afresh without the agency of previous infection. This is a question, it must be admitted, which has not yet been satisfactorily solved. It is true the progress of research tends to show that specific diseases arise, in the vast majority of cases, from previous infection. But even the vast majority does not constitute the whole of the cases. And so long as there remains a residue which cannot be explained, so long there will be a lingering surmise that cases may occur spontaneously. But however this may be, there is the undoubted fact that these diseases do propagate their kind, do generate others similar to them.

The question of the greatest importance is, does plague come

under the category of specific infectious diseases? It is necessary in this connection to allude to the distinction that is ordinarily made between infectious and contagious diseases. Diseases are said to be contagious when direct contact with the diseased person propagates them. Diseases are called infectious when the person affected with them can similarly affect healthy persons at a distance. Hence both logically and in point of fact all infectious diseases must be contagious; and all contagious diseases may become infectious, if their viruses can be transported to a distance without being destroyed. The question again arises, are there diseases which are contagious only and never infectious? In other words, are there diseases which can only be transmitted direct from living body to living body, that is, whose viruses cannot keep their virulence or disease-producing properties, in any other medium than living bodies? This is a question not so easy of solution as at first sight might appear to be; but the solution of which is of great importance. For if a disease is only contagious then its spread can be effectually checked by isolation alone. We can only state our belief that there is no disease which is contagious only, that all contagious diseases are infectious also.

A little consideration will show that there is no essential distinction between contagion and infection. The specific virus of an infectious disease can produce a similar disease in a healthy individual only by gaining access into the organism of that individual, that is, by coming in direct contact with him, though this contact as regards the first disease is mediate, not immediate. So that it is contagion all the same, and the words contagion and infection may be, and are now, used indifferently for the same thing. The word *contagium* is used to denote the specific virus or material which can produce a similar disease to the original.

The question that next arises is, what is the nature of the viruses of the infectious diseases? "The various *specific matters*," says Sir John Simon, "which effect contagion in the living body, the respective 'contagia' of the given diseases, seem all to have in common this one characteristic: that in appropriate media (among which must evidently be counted any living bodily texture or fluid which they can infect) they show themselves

capable of *self-multiplication*; and it is in virtue of this property that, although at the moment of their entering the body they in general do not attract notice, either as objects of sense or as causes of bodily change, they gradually get to be recognisable in both these respects. Now, the faculty of self-multiplication is eminently one of the characters which we call *vital*; and when it is said that all contagia are self-multiplying things, this is at least very strongly to suggest that perhaps all contagia are things endowed with life."

The study of micro-organisms in relation to disease would seem to be daily bringing in evidence in favor of the above supposition, and for most of the specific infectious diseases distinct pathogenic microbes are believed to have been discovered. For some diseases, as tubercle, anthrax, etc., this belief has been well established, for some, as cholera, plague itself, etc., it needs further confirmation, and for others again, as small-pox, measles, etc., the microbes, if they exist at all, have yet to be discovered. In fact, bacteriology, though quite an infant science, is developing and growing with marvellous rapidity, and has been very helpful in throwing light on the obscure field of the etiology of disease. But it is far from perfect yet, and its conclusions have to be received and worked upon with caution.

In view of the great uncertainty which still pervades the whole doctrine of the etiological significance of pathogenic bacteria, in view of the difficulty still experienced even by experts in distinguishing between allied micro-organisms though of different pathogenic powers, in view of the length of time necessary for arriving at it, which means unavoidable but for practical purposes dangerous delay, we would deprecate a too confident reliance upon bacteriological diagnosis alone, especially when unsupported by clinical symptoms. Our readers will remember the blunder which was committed by such an expert as the late Health Officer of Calcutta as regards the bacteriological diagnosis of certain alleged cases of plague in the city and suburbs, and how it was timely pointed out and corrected by a greater expert, and how the course of events justified Dr. Cunningham's pronouncement, and saved Calcutta from the stigma of a plague-stricken city.

There is still doubt as to the exact nature of Plague. The

general belief is that it is both contagious and infectious, but there are some who believe that it is contagious but not infectious, others rather inconsistently believe that it is infectious but not contagious; and it has been reserved for a Bombay medical authority, no less a person than Dr. Blainey, to assert that it is neither contagious nor infectious. The evidence, however, that it does spread from a person who is suffering from it to others who are free from it, is overwhelming. It may not always be possible to trace the origin of the first cases, but in the course of an epidemic the fresh occurrence of the disease is invariably traceable to a previously diseased person. Whether this propagation of the disease is due to living germs which develop and multiply in the organism of the patient, as is now generally believed,* or to some inorganic effluvia, given off by him, is immaterial to the general question of preventive measures against its spread. It is enough to know that the infective agent proceeds from him. The safety of other persons, who have not got the disease, can only be secured by shielding them from the infective agent, and this can be effected either by destroying that agent as soon as generated, or by preventing their intercourse with the diseased individual. The former is the method of disinfection, the latter that of isolation.

The method of isolation is certainly the safest for those who have not been affected, and though theoretically it appears to be the easiest, practically it is not so. The diseased cannot be left to themselves. They must be cared for and treated. Hence the unaffected must come in contact with the affected, and unless the former also are strictly isolated, the isolation of the

* Hitherto the bacillus first discovered by Kitasato in plague patients and the bacillus subsequently but independently discovered by Yersin were supposed to be one and the same organism. Kitasato has recently stated in a Japanese publication that his bacillus is different from Yersin's. Ogata has pointed out that while Kitasato's bacillus is motile and retains the stain in Gram's method, Yersin's is non-motile and loses the stain; and from his own observations is led to conclude that Yersin's is the true plague bacillus. Aoyama, a Japanese authority, has shown that the bacilli found in the buboes and in the blood of plague patients are not identical, the former staining by Gram's method, the latter not. Dr. Cookshank has remarked: "There is no doubt that the micro-organism which was found in blood is very similar to the bacillus of fowl cholera, and it is quite possible that the so-called plague bacillus is really identical with the bacillus of hemorrhagic septicæmia, and that the real nature of the contagium in bubonic plague is unknown."

latter cannot be absolute, but must be partial. The isolation of the former, can be carried out only in the case of nurses; it cannot be carried out in the case of physicians. And our belief is that physicians are the most efficient disseminators of infection. It is true that very few of them catch the contagion, but this is probably because they become immunised by the slow and gradual process of cultivation of the infective germs in their system, or by the intermittent repetition of the doses of the poison introduced by inhalation or through the pores of the skin or by the mouth; but they are not the less on that account the carriers of the infective material. And it is thus that susceptible individuals may be infected and become fresh foci of the disease. The method of isolation, therefore, is not sufficient of itself to prevent the spread of infection. Hence the necessity of supplementing it by the method of disinfection.

In order to carry out the method of disinfection it is necessary, in the first instance, to ascertain the nature of the infective agent, whether it is composed of living germs, or of inorganic material. If it is composed of living germs then we must be fully acquainted with their biological history, how they make their entrance into the system, in what part of it, organ, tissue, or fluid, they find their congenial home and nourishment, how do they multiply, and what the direct and indirect effects are of their multiplication. If the infective agent consists of inorganic material or the product of organic metabolism, here again we must ascertain its nature and composition. In either case, that is, whether the infective agent consists of living germs or of non-living material, it is necessary to ascertain how it gets out of the patient to exert its infective property, whether exhaled by the lungs and skin, or thrown out by the various orifices, in the form of secretions, excretions and discharges.

Having done all this, we have next to find out disinfectants, or the chemical or physical agents, which will prove inimical to the life of living germs, or antidotic of the inorganic and non-living material. We will take up the subject of disinfectants in a future number. We would in this only observe that extreme caution is necessary in their use. It must be remembered that they are not to be looked upon as innocent substances, that all of them are poisons, that some, such as corrosive sublimate, are

particularly virulent, and that therefore the use of these should be avoided as much as possible. We are of opinion that corrosive sublimate may and ought to be dispensed with altogether. Heat is the most powerful disinfectant and is easily regulated and controlled. History bears witness to the fact that it was heat which saved Athens and London. And it is a remarkable fact that the violence of the present epidemic of plague abates in the hot season.

Ultimately, therefore, our main reliance for protection is upon disinfection. Plague hospitals, without the aid of disinfection, would have been intolerable nuisances, and would have proved the most fertile breeding ground of the disease. And if the nurses and the physicians are saved from catching the disease it is partly because, as we have said, from their getting slowly immunised, but chiefly because its contagium is efficiently destroyed by disinfectants. Our contention, therefore, is that if hospitals can be so treated and managed as to be rendered safe for the inmates, why cannot the homes of patients be similarly treated and managed?

We are aware that the majority of the houses in towns do not admit of being so managed and treated. The situation of houses in crowded and unhealthy quarters, and the small size and ill-ventilation, and, in some cases, absolute want of ventilation of the rooms in the houses themselves, forbid their conversion into hospitals suitable for patients. We do not plead for home segregation in such houses.

But there are houses with big compounds of good length and breadth, and there are houses with high and extensive terraces. In the compounds or on the terraces of these houses sheds can be erected for the accommodation of patients, and kept well-disinfected and isolated from the rest of the buildings.

We do not see any objection to allowing home segregation in houses like these. On the contrary, we believe that patients would do better if segregated in their own houses than if taken to isolation hospitals or camps. In sheds erected on the roofs of such houses the ventilation would be more thorough than in sheds built on the damp ground; the air, which is the only sanitary agent which has done any good in epidemics of plague, would certainly be purer and more abundant. And the fact that they

are in their own homes, in the midst of their near and dear ones would operate most beneficially upon the minds of the patients and facilitate their recovery, or at least smooth their path to the other world, if that should unfortunately come to their lot. Why should they be deprived of such consolation?

The disallowance of home-segregation, though now agreed to by medical men generally, and all but unanimously by the members of the Plague Commission, was originally based upon the *ipse dixit* as it were of one medical authority. It was Dr. Lowson, who from his experience at Hong-Kong and Bombay, gave it out as his opinion that the system of home-segregation authorised by rule 31 of the original draft Regulation was likely to prove absolutely ineffectual, and attributed much of the mortality in Bombay to futile efforts to carry out home-segregation in the early stages of the epidemic. Opinion so strongly expressed by a medical man of Dr. Lowson's eminence, who had had practical experience of the disease and of its management, drove our Government to the conclusion that no system of home-segregation could be successfully worked in Calcutta. Home segregation is said to have failed also in Karachi. Not being acquainted with the mode and the details in which it was carried out, we cannot pretend to give the reasons of the failure. We only suspect that it could not have been carried out with all necessary sanitary precautions. However this may be, it cannot be said that disallowance of home segregation has succeeded in making any impression on the disease. It has signally failed, latterly in Bombay, and in Puna from the beginning. And we may as well argue against isolation and segregation altogether from these failures.

While the allowance of home segregation would lead to the beneficial effects we have pointed out, the disallowance of such segregation would invite and lead to a danger of the gravest description. When people would see that if overtaken by the disease they would be dragged out of their homes, torn from those from whom alone they could have the best nursing, the best comforts, and the best consolations, and treated as out-castes of society, they would try their best to conceal cases and elude the vigilance of the keenest search parties unless these are armed with ruthless and arbitrary powers to override all the delicate

and tender feelings of human nature. And who knows but that, if Government persists in disallowing home-segregation, the zeal and indiscretion of search parties may not cause all the horrors and catastrophies of the Western Presidency to be repeated in the Presidency of Bengal? And moreover the concealment of cases would inevitably lead to the spread and aggravation of the disease, and thus frustrate the very object for which home-segregation is disallowed.

Government may not know, but it is a positive fact, that the people of Bengal are in a state of intense panic over the Plague Notification of November 10th of the past year. It is true that a concession has been made in allowing private hospitals, but how many will be able to avail themselves of such hospitals? These hospitals, as we said in a previous article, "cannot be numerous enough or capacious enough for the numerous respectable poor, who, while they have good ancestral houses, have not the means to contribute towards the building of such hospitals; and for them to 'expect the richer members to assist them in preserving their social usages intact by providing special hospitals and camps for them to take refuge in,' would most likely turn out to be depending upon a vain expectation." And is the destination of such men, when attacked with plague or suspected to have its germs in their bodies, to be isolation hospitals and segregation camps, when they can have better accommodation and better provision for treatment in their own houses? The idea has stirred native society to its innermost depths and filled it with dismay. In the native mind hospitals are not associated with anything cheering and encouraging. They are looked upon with horror, as places where people go to die, and are resorted to only as a last resource, and by people who have scarcely any one to take care of them. The people of this country may be and are certainly wrong in entertaining such an opinion of institutions which are doing an incalculable amount of good. But the sentiment is there and the opinion based upon it is there. And however much we regret it we ought not to ignore either.

The Government of Bengal, therefore, cannot do better than allay the state of panic into which the whole province, especially the Metropolis, has been thrown, by timely concession, as was done by the Government of the North-Western Provinces,

which are not less, if not more, exposed to infection than Bengal. The anomaly of the former being allowed home-segregation and the latter not, is being keenly felt. May we not hope that the return of Sir Alexander Mackenzie to his duties would lead to the return of peace in the province which has been so violently disturbed by the Plague Notification issued in November last during his absence? And we are sure His Honour, by removing the anomaly spoken of above, will earn the gratitude and confidence of the people, which are of such vast importance in the present crisis.

It is refreshing to find a paper like the *Pioneer* advocating home-segregation for Bengal. In a well-conceived article in its issue of the 7th instant, it says with reference to Dr. Lowson's opinion: "Nor is it clear that in the early stages of the epidemic any action whatsoever was taken in Bombay. It seems to us the irresistible conclusion that the plague was firmly established in Bombay before it came to the notice of authority. And can the severity of the disease at Poona be attributed to futile efforts to carry out home-segregation?" And it goes on: "Were it merely a question of sanitary *krieg spiel* we should join in demanding sanitation in its fullest equipment and most varied forms. But is it wise or politic to run the risk of certain political trouble for the sake of a dubious sanitary principle?" It very properly says that "the practical position in Bengal is undoubtedly complicated by the admission in the neighbouring province of home-segregation (and home-segregation is essential in the North-West Provinces if the public peace is to be preserved), by the fact that Sir A. Mackenzie himself was originally inclined to grant home-segregation, and by the consideration that the abandonment of home-segregation was announced for a period of several months." It then suggests what we have been urging ever since we took up the subject: "A reasonable compromise can be effected if segregation be permitted in any portion of a private dwelling, or in any building in a private compound which is approved beforehand by the Health Officer, on condition that the householder bears all expenses and submits to constant supervision. A high standard of sanitary conditions would have to be insisted on, and if this were secured we fail to see how home-segregation will fall short in sanitary efficiency of

segregation in private family hospitals." It goes further and makes the humane observation; "By way of concession to those whose houses will not admit of home-segregation to the satisfaction of the Health Officer, the Government should contribute half the expenses of all approved private hospitals. These concessions, we believe," it very justly adds, "will to a great extent re-assure the people, and, if only they are carried out with the necessary tact, enlist the upper classes on the side of the Government, and so be a real help and not a hindrance to sanitary action."

We are in perfect accord with the writer in the *Pioneer* as regards the conditions on which home-segregation should be granted, with one exception, and that is as regards "constant supervision" by the Health Officer. We have no objection to even constant supervision by the health officer or any other medical man or body of medical men so far as sanitary arrangements are concerned. But we would strongly object to supervision of the treatment of the patients, which matter should be left entirely and absolutely to the patients themselves and to their medical attendants who must be of their own choice. We will discuss this matter in our next article.

WHAT IS TO BE THE MEDICAL TREATMENT OF PLAGUE CASES?

Our readers may wonder at the above question. What on earth, they may ask themselves, could be the reason of the question and of making it the subject-matter of an article? Could there be any doubt as to what the treatment of any case, be it one of plague or any other disease, should be? Certainly there could be none if there had been one system of treatment throughout the world. In that case there would have been no choice. But the fact of there being quite a multiplicity of medical systems, and a multiplicity of divisions in each system, shows that the question is quite natural and we might say almost imperative. The answer to the question can only be furnished by the patient himself or, if he is not of age to exercise his own powers of judgment, by his guardians. In this matter, as in religion, every one must decide and act according to his own faith

and judgment. Others may offer friendly advice, but cannot compel.

If then the patients or their guardians are to decide as to what the treatment should be in any case, why do we ask the question pointedly regarding cases of plague? Our own opinion regarding systems of therapeutics is known, and there is no necessity of putting it forward for any particular disease. The question would have been quite superfluous and even irrelevant had it not been for the peculiar circumstances in which plague patients find themselves placed, circumstances which arise from the action of Government, involving a serious interference with the liberty of the patients. It is the duty, therefore, both of Government and of the public to see how far that interference ought to go.

In the discussion of this question, it is necessary once for all to lay it down that by Government we mean a free, not an arbitrary and despotic government, a government if not representative in the sense that it is in England and the United States, at least one which professes to govern as if it were, a government which not only respects the religions and social customs of the peoples under its charge but consults also their opinions and their wishes in all matters which affect their interests. It is only on this basis that the question can be discussed at all. For under an arbitrary and despotic government which can impose its own will upon the governed, the people have no other alternative than to submit to its dictates and commands. Whatever might have been the characters of the governments under which this country has successively passed from the remotest antiquity, the character of the government, under which we have the good fortune and the privilege to live, is one to which no exception can be taken on general and theoretic grounds. In matters of detail and practical applications on any subject Government itself for our benefit courts and invites our opinion and criticism.

Now in the case of preventible diseases, it has become an established principle in all civilized countries "that the community should possess the right to regulate the action of the individual in the interest of the public health," and in exceptional circumstances to set "a limitation on personal liberty." Plague is a disease which, by its virulence and infectious and contagious character, places its unfortunate victims under circumstances which call for limitation on their personal liberty. Both Government and the community have to see that this limitation is legitimate, that it does not prove a hardship beyond endurance, that it does not extend beyond the limits of the public safety.

That Government has respect for our social customs is evident from clause (3) of Rule 46 of the Notification which provides

that "in both public and private camps and hospitals separate and suitable accommodation shall be provided for females, and in the case of a female who by the custom of the country does not appear in public, her *parda* shall be strictly preserved, both in removal to the camp or hospital and during her stay."

And that Government has respect for the religions of the people is shown in Rule 52 for "disposal of the dead :—" "The friends of the deceased shall be permitted to dispose of the corpse by cremation or burial in accordance with their religious practices, but they shall obey the directions of the Health Officer or other sanitary or executive authority as to the time, route and method of removing the corpse to the burial or cremation place. In the event of the failure or refusal of relatives or friends of the deceased to dispose of the body, the Health Officer shall dispose of it in accordance with the religion of the deceased. The corpse of Europeans or Muhamedans who die of plague shall be buried, if possible, at least six feet deep. The place of burial, if not an authorized cemetery, should be far from habitations and should be so situated that there may be no risk of contaminating sources of water supply. The coffin and cloth used to cover the corpse, when not interred with the corpse, shall be destroyed. In cases where cremation is the custom, the body shall be completely burned at the usual burning ghat or other isolated locality in accordance with custom, the cloths brought in contact with the body being either burnt according to custom or disinfected."

When such is the anxiety of Government to maintain intact our social and religious practices, we cannot for a moment think that it has any intention of interfering in matters no less serious in the eyes of all concerned, we mean in matters of medical treatment. We thought clause (4) of Rule 46 was enough to show the tolerance by Government of all systems of medical treatment, and its non-interference with patients' adopting any system they liked or had faith in. This was the impression which a first perusal of the notification in question made on our mind. But we find that it has made a different impression on others.

Thus we find the Maharaja Bahadur Sir Joteendra Mohan Tagore, in his capacity as President of a Conference of public bodies held at the Rooms of the British Indian Association on the 6th December last to consider the Revised Plague Regulations, writing to the Hon'ble H. H. Risley, Secretary to the Government of Bengal, Municipal Department, deemed it necessary to say—"It is also most desirable that every patient, who may be treated in a private hospital, should be allowed to follow the particular system of treatment, whether it be allopathic, homœopathic, *kaviraji* or *hakimi*, to which he is accustomed or which

he may prefer, and the family physician should also be permitted to treat the patient of course, under the general supervision and control of the authorities.

Again: we find a qualified practitioner of this city, Dr. Hem Chundra Ray Chowdhuri, L.M.S., who has adopted the homœopathic method of treatment, in his letter to the Hon'ble Mr. Risley, dated the 18th December, makes the following observations: "After the enforced removal of the sick to either public or private hospitals, it would always be agreeable and some consolation to them, in their then state of mind, if they were allowed their own doctors or not compelled to medical treatment not of their liking or to which they may have positive aversion. Such freedom of choice would also be an aid to recovery. Besides the State-recognized system of medicine, namely, the allopathic, and the two mentioned in the Notification quoted, namely, the Muhomedan and the Hindu, there is another system, namely, the homœopathic, which has gained a footing in this country. * * The State may not recognize any other than the orthodox European system of medicine and may not allow either the homœopathic, the Yunani, or the Aryan system in public hospitals or hospitals aided by Government where those that go of their own accord, cannot but choose the method of cure in vogue in the institution. But plague hospitals, whether public or private, stand in a different position. When sick persons are compelled to go to them and are not allowed the choice to remain at home and be treated as they like, they ought to be allowed the option of doctors or method of medication."

A perusal of these documents led us to more attentively peruse Rule 46, and especially its clause (4) which runs as follows:—"The relatives, friends, *Hakims*, *Baids*, and priests of sick persons shall be allowed free access during the day-time, subject only to such precautions as the Health Officer may consider necessary." There is one condition here which seems to militate against non-interference on the part of Government with the system of treatment to be adopted by the patient. There can be no objection to restricting the hours of visits of relatives and friends to day-time only. But to restrict the visits of *Hakims* and *Baids*, and even of priests to the hours of the day, is to ignore their functions altogether. For, if the *Hakims* and *Baids* are to visit as physicians, who can say that their visits will not be necessary at night time? If they are not to visit as physicians, why allow them to visit at all? And if the chief function of the priest is to afford consolation at the last solemn moments, who will say that these moments will occur only in the day-time? We are bound from these considerations to say that the clause under consideration could not have been drafted with a clear view of these contingencies.

We still think that Government does not mean interference with medical treatment. And our opinion is corroborated by a sentence in Rule 49 which requires: "Upon the death of a sick person from bubonic plague, the Health Officer may cause the other occupants of the house in which the person was ill or in which his death took place to be removed to a segregation camp and detained there for ten days. Provided that this rule shall not apply to any medical practitioner, *hakim* or *baid*, who may at any time attend upon a sick person, or to professional corpse-bearers, mourners and friends who have not been in attendance on the deceased."

Though "homœopathic practitioner" is not mentioned here separately, as *hakims* and *baid*s are, we cannot believe that "any medical practitioner" is intended to mean every practitioner except the homœopathic. We believe that "homœopathic practitioner" was not separately mentioned, because Government, knowing that Homœopathy sprung up as a reform from the regular profession and is practised by regular professional men, that is, by men who have graduated from recognized medical Institutions, was loth as a government to make a distinction between the two schools.

We must say however that the reply which has been given to Dr. Hem Chandra's letter by the Secretary to the Plague Commission does not appear to us to be quite clear and we think Government cannot do better than declare its mind by a straight-forward statement free from all ambiguity. We are bound to say that any interference with the medical treatment of plague patients would be as serious as interference with their religion and social customs. Government might as well try to force beef down the throats of Hindus and pork down the throats of Mahomadans, as try to force any particular system of treatment on plague patients which they may not like. We would go further. We would wish, as indeed any medical man would wish, that the treatment, which any plague patient may adopt, should be left free and unhampered. Maharaja Bahadur Sir Joteendra Mohan Tagore in desiring "that the family physician should be permitted to treat the patient," has added the qualifying clause, "of course under the general supervision and control of the authorities," to which no medical man with any sense of self-respect can submit. The family physician or any physician, who may be asked to treat plague patients, may himself like to consult a superior authority but to force him to be under the general supervision and control of the authorities would be a mischievous check upon his independence. And we are confident this will not be done.

EDITOR'S NOTES.

Otitis Media from swallowing a Pin.

The passage of foreign bodies into the Eustachian tube and tympanum is one of the curiosities of medical literature. In his classical work on the ear Politzer cites the two following cases. A patient was chewing oats and a husk stuck in the throat and wandered up the Eustachian tube and through the tympanum to the external meatus. During the use of the nasal douche a piece was broken off the vulcanite syringe which reached the tympanum, caused acute inflammation, and was removed by incision of the membrane. In the *New York Medical Journal* of Oct. 30th, 1897, Dr. Hober has published the following case. A child swallowed a pin; no symptoms except sore throat followed. After two months she complained of pain in the left ear which was somewhat relieved when a discharge commenced. On examination a small perforation was seen below the handle of the malleus. In using a pledget of cotton-wool it caught in something. A probe was introduced and a small object could be felt. The opening in the membrane was enlarged by incision with a Graefe's knife and again something was felt with the probe which could be moved. With an alligator forceps a small pin about a quarter of an inch long was seized and removed. The child completely recovered in a fortnight.—*Lancet*, Dec. 4, 1897.

A Case of Permanent Polypnea.

Before the Medical Society of Kieff, Dr. Sklowsky read a communication on a very rare case of polypnea. The patient was a child, 3 years of age, with no hereditary taint, but bottle-fed and badly developed. When 18 months old it went through a very severe case of scarlet fever, and since then its respirations have been very rapid. The average number is 84 respirations per minute, going frequently as high as 118 per minute. Night and day the number of respirations is almost the same; the minimum that has ever been observed during sleep was 66 in a minute. The type of the respiration is chiefly abdominal. There is no dyspnea, and the child is not in any way affected by his polypnea.

The heart, the lungs, and the kidneys are perfectly normal, as is the gastro-intestinal canal. Examinations of the blood revealed nothing abnormal. After reviewing the different possible hypotheses, the author says that he is inclined to look for the cause in a localized lesion in that region of the brain where there are situated the respiratory centers discovered by Munk, Bechtereff, and others. The lesion was probably caused by the scarlet fever.

After a thorough bibliographic research the author was unable to find a single similar case, as the cases reported by Kordes, Bischoff, and Seelig-Müller were of a paroxysmal character while in this case the polypnea lasted uninterruptedly for eighteen months. Chloral and the bromides had no effect whatsoever.—*American Medico-Surgical Bulletin*, Nov. 10, 1897.

Statistics of the Pasteur Station at Tiflis.

The last number of the *Annales de l'Institut Pasteur* contains the report for the past year of the work carried out at the Station Pasteur de Tiflis. No less than 242 persons of very diverse nationalities received the antirabic treatment; 5 were Persians, 4 Greeks, 32 Armenians, 5 Tartars, 10 Germans, 110 Russians, &c. Bites from dogs were principally recorded; but there were also 6 from horses, 2 from cats, and 1 from a donkey. The mortality, as estimated according to the Pasteur method, only amounted to 0.45 per cent. An extremely remarkable case is specially recorded, in which a station-master was treated for hysteria, he having no recollection of ever having been bitten by any animal whatever. On being, however, repeatedly pressed, he recalled having been bitten, a year and seven months previously, by a dog in the chest. The characteristic symptoms of rabies soon declared themselves; the patient was not, however, treated for hydrophobia, and he died. Subsequent inoculations proved that he had succumbed to undoubted rabies. So prolonged a period of incubation for hydrophobia is, we believe, unknown. Experiments were conducted at the station to determine the action of Röntgen rays on the virulence of rabid marrows, and it was found that the virulence was diminished slightly by considerable exposure to these rays. Researches were also carried out to ascertain how long rabid marrows can be preserved in glycerine and water without losing their virulence, and the period, Dr. Frantzius tells us, is a longer one than Roux, Nocard, and other investigators have thought.—*Nature*, Dec. 2, 1897.

The Pathological Significance of Toxic Substances in the Urine of the Insane.

In the *Revista di Freniatria*, Vol. 22, p. 114, Dr. R. Pellegrini gives an extended study of the toxic substances found in the urine of the insane.

Chemically, some of his results were as follows:

1. In the urine of the insane, in general the quantities of potassium-indigo sulphates are much more than in the urine of the sane.
2. No differences are to be found in the urines of the sexes.
3. In the general forms of idiocy, imbecility, and simple-mindedness, the quantity of potassium-indigo sulphates is almost in the same proportion as that found in the urine of sane people.
4. In all of the other forms of insanity an increase of potassium-indigo sulphates is met with, this being especially so in the cases of the toxic insanities and of general paresis.

Animal experimentation led the author to the further conclusions, as follows:

1. In the urine of the insane in general one finds an increase in the potassium-indigo sulphates.
2. The urines of the insane are, in general, more toxic than those of the sane.
3. In the same form of mental disease the uro-toxic coefficient is in direct proportion to the amount of potassium-indigo sulphates.

4. The increase in the amount of this salt depends for the most part upon the torpid condition of the gastro-intestinal tract, which is such a prevalent feature in insanity.—*American Medico-Surgical Bulletin*, Nov. 10, 1897.

Ozone.

Whether ozone plays an important part in the hygiene of nature is a moot point. Pure ozone is unquestionably poisonous. In air which is largely polluted with organic matter, as is the air of London and other large towns, small quantities of ozone cannot obviously live long. It is of course a powerful oxidiser and the oxygen with which it is surcharged is soon absorbed. It is found, however, in distinct quantity in the pure air of the country and, as every body knows, in sea air. Its occurrence in air is invariably connected with the existence of water generally in motion. Thus the wind blowing over the sea waves or over the waves of a lake or the air in the immediate neighbourhood of a waterfall or spray contains a notable amount of ozone. Of course ozone must to some extent exert a purifying influence upon the air, but this can only be of importance when the ozone occurs in distinct quantity or when it is being constantly evolved, as over the surface of the sea. Doubtless sea air and mountain air owe their beneficial qualities to their purity which in some measure is due to the action of ozone. This fact has led to the devising of apparatus for the simple and easy production of ozone in hospitals and large buildings. It may not be generally known that a very simple and effectual way of bringing ozone into the house consists in first suspending moist linen sheets in a keen dry wind, and afterwards hanging them up in the house. The air in the room will thus become considerably charged with ozone and its presence will be easily detected by its peculiar smell, while a moistened starch iodide paper will instantly turn blue. Why ozone is accumulated in wet clothes in this way is not quite understood, but it may be due to the rapid passage of the oxygen in air over a large wet surface. It is not improbable that this interesting phenomenon plays an important part in the real hygienic cleansing of our linen articles of clothing. In big laundries when the not quite dry linen is brought in after having been exposed to a cold, dry air for a short time the smell of ozone is almost more than is agreeable.—*Lancet*, Nov. 27, 1897.

The Value of Hydrochloric Acid in Sciatica discovered by Accident.

A somewhat remarkable instance is recounted in the *Semaine Médicale* of a patient having arrived at a successful method of treatment for himself by the merest accident—an accident, too, which was founded on a blundering ignorance of chemistry. A man who had suffered for many years from sciatica was treated in an Algerian hospital by means of hypodermic injections of salt and water, but with much success. After he had left he bethought him that perhaps the salt was not strong enough and that a stronger preparation of salt might be more successful. He therefore procured some "spirit of

salt" (hydrochloric acid) and painted it on the skin, getting rid of his long-standing trouble in a few days. Having occasion shortly afterwards to attend the hospital for some other affection he confided in Dr. Bourlier, professor of therapeutics, whom he saw, how he had managed to get rid of his sciatica. This gentleman thought the plan worthy of trial, and employed it in several cases with invariable success. He then told his son, Dr. Maurice Bourlier, who was house physician, and he treated a number of cases with great satisfaction to himself and to his patients. A thesis has recently been published on the subject by Dr. C. Gennatas, of Montpellier, on the basis of a dozen cases of neuralgia of the sciatica nerve, all of which were completely relieved by this means. The procedure is simple enough. Half an ounce of hydrochloric acid is put in a small cup and a brush is dipped in it and applied over the painful part of the nerve, three or four coats being painted on. The limb is then enveloped in a cotton-wool dressing. Of course, the application causes a somewhat severe smarting sensation, but this is quite bearable. A few minutes afterwards the skin becomes reddened and hot, and sometimes bullæ are formed which fill with fluid. These even if they occur disappear in two or three days. Usually the patient feels better even after a single sitting. The application can be repeated in from twenty-four to forty-eight hours, but not again for several days for fear of producing sloughs. Of course, too, where there are bullæ they must be avoided in subsequent applications. No serious inconvenience is caused by the hydrochloric acid such as was experienced when a similar procedure was attempted some years ago by Dr. Legroux with strong sulphuric acid, which was found to be liable to cause extensive sloughing of the skin. The twelve patients referred to were all reported as cured in from three to five sittings extending over from a week to twenty-five days. It may be well to say that the hydrochloric acid of the French Codex is very slightly stronger than that of our own Pharmacopœia.—*Lancet*, Nov. 20, 1897.

Ascarides producing Symptoms of Typhoid Fever.

The production by round worms of a state resembling typhoid fever has not, as far as we know, been noticed in this country; but in France it has of late years attracted the attention of several writers and its reality cannot be doubted. "Lumbricose à forme typhoïde" is the subject of an article by Dr. A. Chauffard in the *Semaine Médicale* of Nov. 27th, 1895, and more recently of a Thèse de Paris of M. Tauchon. The matter did not escape the observation of the older French writers, for as Dr. Chauffard points out, his case was typically one of "la fièvre putrido-vermineuse" described in 1770 by Lepecq de la Clôture. The latest contribution to the subject is an article by Dr. Pierre Marie in the *Journal des Praticiens* of Nov. 6th, 1897. In the beginning gastro-intestinal symptoms predominate; there are anorexia, foetid breath, dyspeptic tongue, attacks of vomiting and very marked tympanites. To these nervous symptoms are added headache, somnolence, and weakness, which may be followed later by hebetude; sometimes there is vertigo and even convulsions occur.

Pyrexia is well marked but does not exceed 104 F. Usually the evening temperature lies between 102·2 and 103·1 and the morning temperature between 100·4 and 102·2. The spleen is but little or not at all increased in size. Sometimes, as in typhoid fever, epistaxis occurs. On the other hand its points of difference there are no rose spots and no characteristic course of typhoid temperature. Dr. Chauffard's patient was a lad, aged eighteen years, who was admitted to hospital in a miserable condition with drawn features and sunken eyes, dry lips, stupor, and headache. There were general abdominal tenderness, gurgling in the ileo-cæcal region, and slight swelling of the spleen, all pointing to typhoid fever and this disease was in fact diagnosed. But it was noted that the tongue was not characteristic of typhoid fever, being large and flabby and red only at the edges, and that the breath had a strong odour of putrefaction. The temperature ranged up to 102·2 and repeated epistaxis occurred. On the fifth day after admission a round worm was passed, on the eighth and ninth two were passed, and on the tenth one was vomited. Santonica was administered daily in doses of from one to two grammes and worms were passed in numbers—as many as twenty-eight in a week. After this the fever ceased, the patient gained weight, and convalescence was established. But the administration of the anthelmintic was continued and worms were passed though in smaller numbers for several weeks afterwards, in fact, as late as the end of the second month. How was it that the parasites resisted treatment for so long a time? Dr. Chauffard's explanation is as follows. Worms existed in the intestines in different stages of development and only the mature ones were affected by the vermifuge. As proof of this is the fact that they are never expelled except in this stage. Young ones have only been found in the intestine at necropsies. Moreover after each administration of santonica the ova disappeared from the faeces for two or three days and then reappeared.—*Lancet*, Dec. 4, 1897.

The Recent Great Fire in London.

Property covering four and a half acres has been destroyed at a loss of, speaking roughly, £1,500,000. This is the bill for the last great fire, leaving out of consideration the thousands of hands thrown out of work. In view of the rebuilding which no doubt will be commenced as soon as the area affected is cold enough to make a beginning is it too much to hope that some attention will be paid to the first principles of construction? That fires in the City of London commit the fearful ravages they do is, we are quite certain, entirely due to our abominable modern method of building. The enormous warehouses are mere shells consisting of an iron framework lightly filled in with bricks, a little concrete, and large sheets of glass. When completed the structure is said to be "fire-proof." Of course, glass, iron, brick and concrete are all non-inflammable, but once a fire gains a hold of the very inflammable contents what happens? The iron girders and beams expand with absolutely irresistible force and the whole building collapses. Were the good old style of using solid oak beams to be made compulsory the ruin wrought by expansion

would be avoided, and the very progress of the fire much delayed. It is, we suppose, hopeless to try to insist that a certain amount of isolation for buildings shall be made obligatory, or at least that the height of a building shall bear some sensible relation to the width of the street that it is in; but we should have thought it would have been cheaper in the long run to leave a little more land vacant than is at present the fashion. Another point to which we wish to draw attention with reference to this particular fire is the fact that nearly all modern silks are grossly adulterated and consequently far more inflammable than pure silk, a fabric which burns with great difficulty. Sophistication is especially common in the case of black silks. Again, it is reported that there was a large gas main in full blast in the centre of the fire without apparently there being any means of cutting off the supply. We do not see why the gas could not be turned off at various places along the street mains, as is the case with the water pipes. The efforts of the firemen must be seriously hampered by the huge jets of flaring gas, the flame of which are frequently to be seen enveloping inflammable structure which had long been put out only to be ignited afresh. The heat of a big conflagration such as that which recently took place in the neighbourhood of the General Post Office is sufficient to rapidly convert the jet of water from the hose into steam and steam in contact with glowing charcoal produces inflammable gas—i. e., a mixture of hydrogen and carbon monoxide. Is this, perchance, any explanation of the difficulty of extinguishing the fire of buildings when in the official reports they are described as “well alight”? Water poured upon a glowing mass of embers may thus accentuate rather than stifle the blaze. We wonder that now carbonic acid gas can be obtained compressed in immense quantities in steel cylinders it is not tried, especially in the early stages of the fire, as an adjunct to water which after all is only applied to reduce the ignition temperature and not in any way as a non-supporter of combustion. With reference to the rumour that the supply of water was inadequate Colonel Rotton stated to the London County Council on the 23rd inst. that “there was plenty of water in every place.”—*Lancet*, Nov. 27, 1897.

Acquired Immunity.

GOTTSTEIN (*Berl. klin. Woch.*, Sept., 1897), whose attacks upon the antitoxin treatment of diphtheria are well known, now challenges the commonly received view as to the immunity acquired by human beings to second attacks of acute specifics. He considers it unjustifiable to conclude that because a man does not have an infectious disease twice he has become immune to it through the first attack; he considers this to be a result of the doctrine of chance, and points out that although the winning of the first prize in a lottery twice by the same person is practically unheard of, no one would think of claiming this as a case of immunity. The author dismisses the prophylactic action of vaccination on the ground that this is not strictly comparable with variolous inoculation, and states that Voges has shown that fowl cholera can lay claim to no specific immunising power, as the

same immunity as that conferred by injection of attenuated cultures can be obtained by the aid of serum from healthy animals, and hence that the experimentally established immunity of Pasteur is simply a heightened power of resistance. Human acquired immunity should, according to him, be investigated without reference to experiments on animals. Gottstein proceeds to inquire as to which acute specifics are definitely held to confer immunity, and by collecting the opinions of various authors finds that small-pox, measles, and scarlet fever are alone universally stated to do so. As regards the first two, cases are not uncommon in which the same patient suffers from the disease twice or even more often, and the rarity of this is only in accordance with the law of probabilities. Three factors combine to add to this infrequency. First, many diseases, such as diphtheria, are particularly associated with the early years of life, so that when a patient is exposed to a second infection he has very often passed the age of especial liability. Other affections again, such as cholera, typhus, and recurrent fever occur typically in short infrequent epidemics, so that the subject has but little chance of meeting with them again. Lastly, and this is most important, deadly diseases such as cholera, diphtheria, and plague spare only those who are most resistant, in whom the probability of a recurrence sinks very low. The author then gives a number of examples of the repeated occurrence of infectious diseases in the same individual, and enters into elaborate statistics to show that the frequency of such repeated infections is actually in excess of what might be deduced from the calculation of probabilities. Thus he quotes from Maiselis statistics of 35 second attacks of scarlet fever, 37 of measles, and no fewer than 514 of small-pox, and refers also to the recurrence of syphilis and of whooping-cough. He next attacks the current views as to serum immunity, referring to the experiments which have been made to show that the serum of new-born babies and of adults who have never suffered from diphtheria exercises a protective influence in guinea-pigs against diphtheria toxin. He further points out that, according to Weismann's theory, acquired immunity cannot be transmitted, and hence will not explain family and racial non-susceptibility to disease. This is really a heightened power of resisting resulting from the elimination of the weak in the struggle for existence. He finally suggests that in many of the exanthemata the true cause of immunity may be hardening of the skin, following the rash and preventing cutaneous infection. He illustrates this by the case of vanilla-workers, who, after once recovering from the eczema induced by their trade, are no longer liable to it.—*Brit. Med. Jour.*, Nov. 13, 1897.

Pathology and Bacteriology of Plague.

Within the last few months several papers have appeared on the pathology and bacteriology of plague. Reference may be made to the following: Wyssokowitz and Zabolotny (*Annal. de l'Inst. Past.*, August, 1897) distinguish, according to the path of infection, two forms of the disease—viz. one in which there are external buboes, infection

having occurred through the skin, and a second (much rare) form in which there is a primary pneumonia, with a corresponding affection of the bronchial glands whilst external buboes are wanting. They have not met with a primary intestinal form. They find that the lymphatic glands, in immediate relation to the site of infection, can be readily distinguished from those secondarily affected by the much greater degree of inflammatory swelling, and especially by the enormous numbers of plague bacilli present in them. Where the lung is primarily affected, the lesion is a broncho-pneumonia, characterised by "nodular infiltration" and by the mucoid appearance of the consolidated patches; clinically, there is usually neither cough nor sputum. Lesions in the lungs can also occur secondarily—i.e. in cases where there are external buboes, but in such cases they are present in the superficial parts of the lung, and their relation to the blood-vessels can be distinguished. In a great majority of the cases with external buboes, they found that it was impossible to find the lesion of the skin by which the bacilli had entered; and they have made interesting experiments on this subject. Finding that monkeys are very susceptible to inoculation with the bacillus of plague, usually dying within a few days, with typical buboes but with more bacilli in the blood than is the case in the human subject, they made experiments by simply puncturing the skin with spines charged with the virus. Five monkeys were inoculated in the palm of the hand, and all died in from three to five days, with well-marked buboes; but there was no evidence of inflammatory reaction at the site of inoculation. They thus demonstrated how the primary wound might be so slight as to escape notice. They also infected monkeys by introducing the bacilli into the trachea by means of a sound. Death occurred in two to four days, there being present well-marked pneumonia, etc., in which numerous bacilli were found, though very scanty in other parts of the body. Introduction of the bacilli into the stomach was followed by no result.

A long paper by Yamagiwa, occupying 120 pages and constituting a supplement to *Virchow's Archiv*, October 1897, is concerned chiefly with the clinical features and the pathological anatomy of the disease. He finds no evidence of an entrance of the bacilli into the body by the lungs or intestines, as would be shown by the characters of the lymphatic glands in relation to these parts. Accordingly his results so far as pulmonary infection is concerned, differ from those of the writers just mentioned. As regards intestinal infection, he does not think that the finding of the bacilli by Wilm in the fæces of those suffering from the disease is of much moment, as the bacilli probably pass into the intestinal tract secondarily. Ogata found them both in the bile and in the urine. He concludes that the chief, if not the only means of entrance is by the skin or adjacent mucous membrane; but in only one case out of seven can a wound of the surface be found. A bube results from the intense inflammation with oedema of the cortical part of the gland and of the surrounding connective tissue, while the medullary part of the gland is little affected. Then occur hæmorrhage, which is often due to inflammatory infiltration of the walls of veins, necrosis, and sometimes softening. True suppuration is rare. In the

buboes excised during life the bacillus of plague alone is present ; whilst in cases examined *post mortem* there is often to be found a small, diplococcus-like bacillus which stains by Gram's method ; the presence of this latter organism is a secondary phenomenon. The bacillus of plague is only rarely to be found in the blood during life and the disease is to be regarded as an intoxication rather than a septicæmia. Metastatic foci, chiefly in the lungs, liver, and spleen, also occur—areas of hæmorrhage and necrosis ; in these also the bacilli are abundant.—*Practitioner*, Dec., 1897.

CLINICAL RECORD.

Indian.

A Case of General Anasarca.

By Dr. AMRITA LAL SIRCAR, L.M.S., F.C.S.

D—, a Hindu, male, aged 63, a chronic asthmatic, came under my treatment for general anasarca on the 8th of February 1897.

In 1895 towards the latter end of September the patient noticed swellings of the hands and feet, and also of the face. He placed himself under an allopath, and continued his medicine till April next year. His doctor told him that he could not detect any albumen in his urine. He felt better under his treatment. Again in the beginning of September 1896, the swellings appeared. This time he placed himself, by the advice of several of his friends, under a Kaviraj. The Kaviraj gave him a preparation of Gold (*Subarna Pappati*) with the strictest injunction that he should not drink water at all. Milk was allowed him to drink in large quantity in place of water. The Kaviraj's medicine was used for more than three weeks without any appreciable benefit. On the 23rd day of this treatment the patient got fever with shivering. All hope of life was given up by the Kaviraj who told the relatives of the patient to try some other methods of treatment. Whereupon an Allopathic physician of repute was called in who also did not entertain much hope of his life. However he took up the case in the middle of November 1896, and treated him with a variety of medicines. Cupping was ultimately resorted to on the back over the region of the kidneys. This was continued without any avail till the end of January 1897. The condition of the patient at this time was very serious. The legs, the abdomen, the hands, and the face swelled enormously. The quantity of urine did not exceed 5 ounces a day. He could not lie down or bend the knees at all. He had to pass nights and days in the sitting posture. The circumference of the abdomen exceeded 54 inches and that of each knee joint 21 inches. The look of the patient was hideous, and every one of his relatives thought that he was going to die soon ; accordingly the ceremony of the sanctification of the body before death (*Pryaschitta*), as enjoined by the Hindu Shastras, was performed.

To give a chance to homœopathy, all other systems having failed, I was called in on the 7th of February 1897. The condition of the patient was rapidly growing worse. When I saw him first I was almost reluctant to take the case under my care. On the first day I did not give any medicines and stopped all others that he was taking. On the second day, i.e., on the 8th February, I gave him *Apis* 6, which I was led to select from the following symptoms:—great thirst, reddish blush of the skin in general almost like the erythema produced by the sting of a bee, and burning of the whole body. I ordered him to take only hand-made bread, soup of *Mug dal*, *patola*, and milk. I allowed him to drink water in very small quantities, not more than 3 ounces a day. Three days after, i.e., on the 11th of February, I noticed a remarkable change, the shining appearance of the swelling had gone and the face was much less swollen. The urine slightly increased, being about 7 ounces during 24 hours. The stools were thin and eight or ten in number. This day he told me that he has got ulceration about the anus. These ulcerations had appeared long before he came under my treatment. Continued *Apis* 6.

On the 21st of February, I found that he could bend his knees to a greater extent than before and the urine was much more free, but the character and number of stools had not changed. I examined the urine and found albumen in small quantity. The same medicine was continued, and hot ghee was ordered to be applied to the ulcer about the anus.

On the 28th the circumference of the abdomen was 48 inches, of the knee joint 19 inches, urine 10 ounces. Stools the same. I did not like to stop the stools, as I thought they were doing him good.

March 8th. Abdomen 44 inches, knee joint 17 inches. Urine and stools were the same. Continued the same medicine.

March 15th. Abdomen 40 inches, knee joint 16 inches, urine 12 ounces, stools less in number, but the ulcers were troublesome. I gave *Sil.* 12 to take twice daily.

March 22. Report favourable. Ulcers about the anus almost healed. The swelling of the scrotum and penis has almost subsided. Abdomen 40 inches, knee 16 inches. Urine 16 ounces, stools two in number. *Nihilum*.

April 3rd. The case progressing very favourably. Abdomen 36 inches. Edema of the face, legs and dorsum of the feet all gone. The patient can now stand up and walk a few steps. *Nihilum*.

April 20. Abdomen 32; no more indication of any fluid under the skin or in the abdomen; appetite sharp, stool and urine free and regular. *Nihilum*.

May 7. The patient doing well. He can walk about. There is no more swelling anywhere. Did not allow him to take rice yet.

May 18. Gave a bath but no rice.

August 20. Rice was given with no bad effect.

The patient is now hale and hearty, taking his usual food—rice, dal, vegetables, fish, etc. There is not a trace of albumen in his urine. He can now safely be pronounced as cured.

Foreign.

CASES BY S. PRINDLE, M.D., MENOMINEE, MICHIGAN.

Case 1.—Infantile Convulsions.

A baby three weeks old; history of slight cold; first saw it on Saturday, January 16th; found considerable cough, slight fever, mucous rales in right lung; nursing well; restless but not fretful. Gave it *Antimonium tartaricum*, third trituration.

On the following day it was still restless, but breathing easier; mucus easily detached and being thrown off; no fever; prescription continued.

On Monday the child seemed well and the case was dismissed.

On Tuesday I was summoned in a hurry; the child had had three or four hard convulsions; head thrown back, strabismus, colicky pains, green stools with curds of milk, no vomiting but some fever. Gave *Aconite* and *Belladonna* alternately. Later in the day gave half drachm doses of *Passiflora* to control the spasms. The mother being almost hysterical and at the same time having trouble with her bowels, I concluded to give the baby cream and lime water as a diet.

On Wednesday the stools were dark and very watery and the child had intense colic; and bowels were much distended with gas; there was constant straining; the spasms were not so constant and were less severe. Continued the *Passiflora*, gave a diet of toast, water and arrowroot, and gave the *Arsenite of Copper*, 2x, two grains in half glass of water, teaspoonful every half hour.

On Thursday the abdominal symptoms were no better, the tympanites was even more marked. Discontinued the *Passiflora*. Passed catheter above the sigmoid and irrigated with weak saline solution with almost instant relief. Toast, water and arrowroot were continued, and the *Cuprum arsenicosum* was also continued. The kidneys were acting freely.

On Friday morning the spasms occurred at intervals of half an hour. The tympanites was lessened. No urine had passed since midnight. At noon the spasms were increasing in frequency and were lasting longer. The child was unable to swallow; there was constant moaning; I watched the case for two hours, keeping the patient partly under the influence of chloroform. About two p.m. a natural stool was voided; straining at stool had nearly ceased; the hands were cold, face was beginning to get puffy, especially under the eyes; at three p.m. the patient was cold to the elbows and knees, the pulse was very weak and uncountable, the eyes half open, and fixed, and I expected death within an hour.

While watching the case and endeavouring to make the end as easy as possible I had an urgent call on another street and told the parents there was little or no hope, but as a last resort I would give another remedy. *Apis*, 3x trituration, was placed upon the child's tongue and allowed to dissolve there, as the patient had not swallowed since the morning of that day. I did not even return after making the new call expecting that the child would be dead; but at five o'clock I was agreeably surprised by the father coming in to tell me they did not

know what to make of the baby, he was crying so loud. On going to the house I found that soon after giving the Apis the child had turned pink all over, as they expressed it, and in an hour fairly flooded his clothes with a flow of urine and since then had been crying. On examination I found the reaction complete, and, concluding his cry was one of hunger, gave him a bottle of breastmilk and soon the youngster was in a sound and natural sleep and went on to an uneventful recovery. "

Case 2.—Aneurism of Carotid Artery. "

A little girl, four years old, had right-sided parotitis. She had slight fever but was otherwise little inconvenienced. The mumps almost disappeared on the fifth day. About a week afterwards I was called and found that there had been slight hemorrhage from the right ear and also that the ear had been discharging a slight quantity of very thin pus for a couple of days previously. The hemorrhage was very slight; the throat looked swollen and the right parotid was enlarged, as also the whole chain of cervical glands. Two days later the child seemed distressed at times; the right tonsil was enlarged and red, but the swelling seemed worse above the tonsil; the child was unable to open the jaws easily; she had but little fever and was able to continue playing about the room. Now and then she would drop into a drowsy condition and seemed to have pronounced pain on swallowing. I feared diphtheria and called soon after the noon hour to make a second inspection of the fauces. The condition was the same; the outside swelling had increased if anything, but there was no fluctuation; nor was there any membrane inside though the tonsils were red and inflamed. The child resisted examination resolutely. The whole appearance determined me to call a specialist into the case. Accordingly at four p. m. Dr. Calvin Elwood met me and a thorough examination was made with tongue depressor and nasal speculum. The child had to be held forcibly in order to get a view of the fauces. As Dr. Elwood and I were discussing the case the child opened its mouth and in less time than it takes to tell it had emptied its body of blood and lay dead upon the floor from rupture of the carotid artery.

I am certain there was a little pus mixed with the blood and am equally certain that there was no bulging of the anterior surface of the fauces at the beginning of the trouble. And yet it would seem a case of unquestioned aneurism. The query is, could an aneurism have formed in so short a time? Even had there been pus could it have destroyed the coat of the artery so quickly? The child had always been perfectly healthy, and to my knowledge was playing about the house only a few minutes before its death.—*Medical Century*, Nov. '97.

Cleanings from Contemporary Literature.

A SENSITIVE SUBJECT.

By DR. DUDGEON.

Many cases of extreme sensitiveness to the action of some medicines have been recorded, but probably none has ever exceeded or even equalled the sensitiveness to the action of all medicines of that singular and mysterious being Caspar Hauser. This unfortunate young man was found by the police aimlessly wandering about the streets of Nuremberg in the spring of 1828. He was placed under the care of Professor Daumer, who taught him to speak, and gradually elicited from him that he had hitherto lived in a dark underground cellar and fed on black bread and water. He had been deprived of all intercourse with his fellow-creatures, and though of mature age he had at first no more intelligence than a baby. However, he showed a remarkable power of learning all that was taught him, and rapidly acquired the power of speaking, writing, doing simple sums in arithmetic, drawing and playing on the piano. For a long time he was painfully affected by bright light and loud noises. He could distinguish colours in the dark, and felt acutely the slightest blow or touch and strong perfumes would bring on convulsive attacks. For long he would not eat anything but the black bread on which he had been reared. He was very subject to convulsive attacks, and he soon became seriously ill, for which he came under the treatment of Dr. Preu, an ardent homœopathist, who has given an account of his medical observations on this remarkable patient in the eleventh volume of the *Archiv für die hom. Heilkunst*.

Dr. Preu found that the simple lessons he was taught caused an increase of the convulsive movements, and brought on severe headache; so the lessons were discontinued and he was allowed to play about in the garden and have moderate horse exercise. In about ten weeks he was pretty well, and it was found that he had grown two inches taller. But his extreme sensitiveness to external impressions remained. A mere touch of the bare hand he felt like a blow. If the hand that touched him wore a glove he did not feel it so much. All excitement brought on convulsive movements in the face and left arm. His acuity of vision was extraordinary; at a distance of one hundred paces he could count the berries on a bunch of elderberries; he could tell colours in total darkness, and he saw best in twilight. His sensitiveness to odours was extreme. A bottle of perfume opened in his room caused convulsive movements. He said it caused a painful sensation in the head that extended to the eyes, went down both sides of the head through the cheeks in a line on both sides, which seemed to unite in the stomach, where it caused a pressure in the scrobiculus cordis, followed by eructation and waterbrash. In a quarter of an hour only the headache and pain in eyes remained. He longed for the open air. After walking a little he had chills with repeated eructations, followed by heat, and lastly sweat on the forehead.

His diet, which had hitherto consisted of black bread and water, was gradually changed to vegetables, soup, milk, and white bread. It was long before he could be induced to take animal food, but after three or four months he ate and enjoyed a plentiful meal of meat.

He was a good medium for mesmerism and clairvoyant. He had many premonitions of coming events. He foretold his attempted assassination of the 17th of October, 1829. (He was really assassinated a few months later.) He could tell the approach of his tutor, without seeing him, at 125 paces distant. A thunderstorm affected him powerfully. It caused convulsive movements in face and limbs, a feeling as if everything inside of him was loose and in motion; he shivered frequently, had a feeling of pressure in the head, and all this lasted till the storm was over, when his nose bled and the head was relieved. The lightning flash caused a pricking as with needles in his eyes. The lunar changes acted remarkably on him. Just before full moon he felt unwell, had oppression of chest, rigor all over the body even when the weather was warm or he was in a warm room. As the moon waned he felt better.

Dr. Preu gives a detailed account of the effects of medicines on Caspar Hauser. *Sulphur*. Smelling at a bottle containing the 3rd. dil., he perceived an odour like alum in the nose and a vesicular eruption appeared on a part of his face where he had long since had a similar eruption. In ten minutes the vesicles had developed and burst. He next had repeated loose stools. The second and third day epistaxis. During the next three days he developed many of the *Sulphur* symptoms recorded in Hahnemann's proving and also some new symptoms, such as: Hot feet, tightness of skin of feet when walking, his breathing was easier when lying on the left than on the right side, palpitation on going to sleep. When looking up, bits of gold seemed to fall before his eye; on looking at anything he saw blue, green and red stripes. When walking in the open air his hands perspired so profusely that his gloves were completely soaked. Many of these symptoms recurred during the next three weeks.

Silica. Smelling at a bottle filled with globules of the 30th dil. caused him immediately to perceive various odours, viz.: of wine, of sugar, and another indescribable odour. He grew pale, tottered and felt as if he had received a violent blow. He said he felt the medicine first in his head, then in his body and all his limbs, then back to his head, and his forehead was covered with perspiration. Next nausea. After half an hour violent eructation, at first odourless, then with a peculiar smell perceptible to the bystanders. Besides many other of Hahnemann's symptoms he complained particularly of the following symptoms, some of which are not to be found in Hahnemann: something alive running about in his head, shooting in eyes, pupils dull, a red spot on lower lid, burning in eyes and in throat. During the second and third days, pressure in eyes down to the chin; shooting from nape to right ear; red sediment in urine; for four days the hair fell out in large quantities; for five days headache when walking; once when he struck his foot against something he felt

a violent pain in his head as if the brain would be forced out. For seven days he loathed meat. On the twelfth day nausea and a recurrence of the peculiar odour, followed by vomiting of bitter water and mucus; then a red eruption on forehead and below eyes and headache. Fetid mucus on the tongue. Great prostration, cannot write; eyes affected, cannot read, eyes water. For fourteen days singing in ears, chiefly in afternoon. Affrighted starting; stitches in feet and burning in all limbs. After two weeks a sensation as if something pressed upon head and as if a thread were bound round the head. During all this time the night perspiration was increased.

Ipecacuanha. While making a morning call in a house where there was a strong smell of varnish he was attacked by a violent and continuous spasmodic cough. When this had lasted from 3 till 8 p.m. he was made to smell at a bottle full of globules of *Ipec.* 6. The cough was thereby immediately increased, but ceased completely in a quarter of an hour. Then came on heat, violent pain in chest and head and inflamed eyes. If he lay on his left side he had dyspnea, with pressure and stitches in the left side of chest, as though he should be suffocated. Great sensitiveness of the hearing. Groaning; cannot hear what is said; sleepless night. In the morning expectoration of greenish-yellow mucus with some blood; jaundice all over body. For this he had to smell

Nux vomica 6. Immediately aggravation followed in half an hour by amelioration; at noon, tongue white, great pain in throat, much mucus mixed with blood from mouth; second night, sleepless; third day, chilly, during the day alternate heats and chills; vomiting at night, much blood from throat; third night, sleepless; fourth day commences with feverishness; burning in throat when swallowing soup. For many days there remained prostration, weakness, disturbed sleep, weakness of eyes, inability to do mental work.

Sepia. Smelling at the 30th dil. caused a great number of the symptoms recorded by Hahnemann and some others. The voice became rough, as from catarrh. Speech was slow; gait unsteady. In the afternoon a febrile attack like that recorded in the pathogenesis. Sudden, burning eruption in the neck that declined towards evening. Face very red, veins of arms and hands distended. When walking in the evening felt as though ants crawled up his legs to the pit of his stomach, when he felt pressure in chest; profuse sweat, pain in limbs. The febrile attack lasted an hour, and ended with violent rigor. Great prostration next day, pressure in forehead. In bed before falling asleep tearing pains in joints and other parts of body. Night sweat so profuse he had to change his nightshirt. Second day, in evening ringing like a bell in right ear with headache; then he felt as if a drop fell down on the right side of the head, whereupon the ringing ceased but the headache increased.

Arnica. One day he got a blow on the right hip-bone. The pain from it spread up the back to the nape, then came a tearing pain in left eye, with heat of body and headache. The bruised part remained painful and

he could not lie on his back. For this he got *Arnica* (dilution not stated) to smell. He had the same pain as from the blow but in a reverse order. It was first in his head, then in the left eye, and then a tearing pain from the nape down to the bruised spot; then the pain spread back to the nape, a chill came on and the pain ceased.

Calcaria. As Caspar Hauser was at this time (August, 1829) gaining flesh, and as he objected to being fat, this medicine was given him in the 30th dil. by olfaction. (Hahnemann says it is useful in the obesity of youthful subjects.) Immediately there occurred cough and compression of head; strong smell from mouth; feeling of debility after stool. The second day already the clothes had become looser. He became excoriated by walking and riding; loathing at meat; great falling out of hair; swelling of veins of hands with heat of face. He daily decreased in size.

Caspar's attempted assassination on the 17th of October, 1829, interrupted the series of experiments with medicines for a while. The wound and the shock threw him back into his previous condition of hyper-sensitiveness to all external impressions, and it was long before he recovered from the effects. His restoration was chiefly effected by mesmerism, to which he was extremely responsive. *Lycopodium* also was of use. After this Caspar passed out of the care of Professor Daumer and Dr. Preu, and, as is well known, a second attempt at assassination proved more successful than the first and terminated the career of this mysterious and interesting youth, and deprived homœopathy of any further revelations in respect to the influence of minute doses on a subject of such exceptional sensitiveness.—*Homœopathic World*, Oct. 1, 1897.

CUPRUM METALLICUM.*

Cuprum is pre-eminently a *convulsive* medicine. The convulsive tendency associates itself with almost every complaint that Cuprum creates and cures. The conditions that it is remedial in are spasms of muscles, small spasms and large spasms, contractions and convulsions. It has convulsions in every degree of violence, from the mere twitching of little muscles and of single muscles to convulsions of all the muscles of the body. When these are coming on the earliest threatenings are drawings in the fingers, clenching of the thumbs or twitching of the muscles. It has twitching, quivering, trembling, and it has also tonic contractions, so that the hands are closed violently. In this latter condition the thumbs are first affected; they are drawn down into the palms and then the fingers close down over them with great violence. In the fingers and toes and in the extremities the spasmodic condition increases and extends until the limbs are in a state of great exhaustion. Tonic contractions, the limbs being drawn up with great violence and it seems as if the frame would be torn to pieces by the violent contractions of the muscles everywhere. Often the contractions assume a clonic form, with jerking and twitching.

* A Lecture delivered by Prof. J. T. Kent at the Post-Graduate School.

Cuprum Metallicum.

Cuprum has many *mental symptoms*. It has a great variety in its delirium, incoherent prattling, talking of all sorts of subjects incoherently. It has produced nearly all of the varied states that an individual is capable of undergoing as to the mind: delirium, incoherency of speech, loss of memory. During its different complaints, such as cholera, some forms of fever, the puerperal state, dysmenorrhœa, congestion of the brain, etc., there is delirium, unconsciousness and jerking and twitching of the muscles. The eyes roll in various directions, but commonly upwards and outwards or upwards and inwards. There is bleeding from the nose and the vision is wonderfully disturbed. Between the convulsive attacks there is incoherent talk, delirium, during which the patient is spiteful, violent, weeping or crying out and shrieking. They go into convulsions with a shriek or sharp cry. In one place it is spoken of as bellowing like a calf.

This drug has the ability to produce a group of spasms followed by the appearance as if the patient were dead, or in a state of ecstasy. Convulsive conditions sometimes terminate in a state of tasis, during which the mind ceases to act and the muscles remain quiet or only quiver. This is often one of the leading features in *whooping cough* when Cuprum is indicated. To bring it down to the language of the mother, the description which she gives of the little one, which will probably make you remember it better than if I use the text, she says that when the child is seized with a spell of this violent whooping cough, the face becomes livid or blue, the finger nails become discolored, the eyes are turned up, the child coughs until it loses its breath, and then lies in a state of insensibility for a long time until she fears the child will never breathe again, but with a violent spasmodic action in its breathing, the child from shortest breaths comes to itself again just as if brought back to life. You have here all the violent features of whooping cough and a bad case. In addition to what the mother says you may also observe a few things, but the whole make-up of such a case, its whole nature, shows that it is a Cuprum whooping cough. If the mother can get there quickly enough with a little cold water she will stop the cough. Cold water especially will relieve the spasm, and so the mother soon gets into the habit of hurrying for a glass of cold water, and the child also knows, if it has tried it once, that a glass of cold water will relieve it. Whenever the respiratory organs are affected there is dreadful *spasmodic breathing*, dyspnœa. There is also great rattling in the chest. The more dyspnœa there is the more likely his thumbs will be clenched and the fingers cramped.

In the lower part of the chest, in the region of the xiphoid appendix, there is a spasmodic condition that is very troublesome. It seems to be at times a *constriction* so severe that he thinks he will die, and at others a feeling as if he were *transfixed* with a knife from the xiphoid appendix to the back. Some say it feels as if a lump were in that region and others as if much wind were collected in the stomach. It destroys the fullness of the voice, and it seems as if his very life would be squeezed out. Sometimes then it takes the form of colic and sometimes of neuralgia. If you

examine that extreme tightness you will see at once how the voice is affected. You will be called to the bed-side and find the patient sitting up in bed; he tells you in a cracked and squeaking voice that he will soon die if he is not relieved; his face is a picture of fear and anguish; he really looks as if he were going to die; the sensation is dreadful. Cuprum speedily cures this complaint. This constriction and dyspnoea occur sometimes in cholera morbus and in painful menstruation. Spasms of the chest are also accompanied by this constriction and a nervous spasmodic breathing. He is not able to take full breath.

The Cuprum patient is full of *cramps*. There are cramps in the limbs and in the muscles of the chest, with trembling and weakness. In old age, and in premature old age, it is useful for those cramps that come in the calves, the soles of the feet, and the toes and fingers at night in bed. In debilitated, nervous, tremulous old people, Cuprum serves a peculiar purpose. When an old man, who has been single a long time, marries, his cramps will sometimes prevent him performing the act of coition. He has cramps in the calves and soles as soon as he begins the act. Cuprum is the remedy. It is especially suitable to young men who have become *prematurely old* from vices, from strong drink, from late nights and various abuses, and these cramps are not unlikely to occur in such subjects. Cuprum and *Graphites* are the two remedies for cramps coming on under these circumstances, but whereas Cuprum is said to produce cramps that prevent the act, *Graphites* is said to bring on the cramps during the act. The two remedies however compete closely with each other, and hence if *Graphites* corresponds to the constitution of the patient, it should be given, and the same in regard to Cuprum. *Sulphur* also has cured this state.

In spasmodic conditions that come on during menstruation Cuprum is also useful. *Painful menstruation with spasms* commencing in the fingers and extending over the body. Tonic contractions that look like hysterical manifestations. They may be hysterical, but that does not interfere with Cuprum curing, if they are only spasmodic or convulsive. Violent dysmenorrhœa with delirium, turning up of the eyes, contortions of the face and epileptiform manifestations.

In *epilepsy* calling for Cuprum we have the contractions and jerkings of the fingers and toes. He falls with a shriek and during the attack passes his urine and feces. It is indicated in epilepsies that begin with a violent constriction in the lower part of the chest such as I have described, or with the contractions in the fingers that spread all over the body, to all the muscles.

Again, it is a remedy sometimes needed in the *puerperal state* before or after delivery. The case may be of uræmic character, but no matter; the urine is scanty and albuminous. During the progress of the labor the patient suddenly becomes blind. All light seems to her to disappear from the room, the labor pains cease, and convulsions come on, commencing in the fingers and toes. When you meet these cases do not forget Cuprum. You will look around a long time before you can cure a case of this kind without Cuprum.

In *cholera morbus* with gushing, watery stools and copious vomiting, the stomach and bowels are emptied of their contents. The patient is fairly emptied out, becomes blue and all over, the extremities are cold, there is jerking of the muscles, cramping of the extremities and of the fingers and toes, spasms of the chest; he is cold, mottled, blue in blotches, going into collapse; the finger nails and toe nails and the hands and feet are blue. There are several remedies that look like Cuprum in such a condition. In cholera we would naturally hunt for such remedies as produce cholera-like discharges, more or less spasmodic conditions, the great blueness, coldness, sinking and collapse. We would here refer to Hahnemann's observation. Hahnemann had not seen a case of cholera, but when he was written to for information, he replied that the disease produced appearances resembling the symptoms of Cuprum, *Camphor* and *Veratrum album*. He saw from the description of the disease that the general aspect of cholera was like the general aspect of Cuprum, *Camphor* and *Veratrum*, and these three remedies are the typical cholera remedies. They all have the general features of cholera, its nature and general aspect. They all have the exhaustive vomiting and diarrhoea, the coldness, the tendency to collapse, the sinking from the emptying out of the fluids of the body, and the question naturally arises, which one will we select?

From what I have said you will see that the Cuprum case is, above all others, the *spasmodic* case. It has the most intense spasms, and the spasms being the leading feature, they overshadow all the other symptoms of the case. He is full of cramps and is compelled to cry out and shriek with the pain from the contractions of the muscles. *Camphor* is the *coldest* of all the three remedies; the *Camphor* patient is cold as death. *Camphor* has the blueness, the exhaustive discharges, though less than Cuprum and *Veratrum*; but whereas in the latter two remedies the patient is willing to be covered up, in *Camphor* he wants the windows open and wants to be cold. Though he is as cold as death he wants to be uncovered and to have the windows open. But just here let me mention another feature in *Camphor*. It also has some convulsions which are painful, and when the pain is on he wants to be covered up and wants the windows shut. If there are cramps in the bowels with the pain, he wants to be covered up. So that in *Camphor*, during all of its complaints in febrile conditions (and fever is very rare in *Camphor*), and during the pains he wants to be covered up and to be kept warm, but during the coldness he wants to be uncovered and have the air. In cholera, then, the extreme coldness and blueness point to *Camphor*. Again, with *Camphor* there are often scanty as well as copious discharges, so that the cholera patient is often taken down so suddenly that he has the coldness, blueness and exhaustion and almost no vomiting or diarrhoea, a condition called *dry cholera*. It simply means an uncommonly small amount of vomiting and diarrhoea. This also is *Camphor*. Another prominent feature is the great coldness of the body without the usual sweat that belongs to the disease. Cuprum and *Veratrum* have the cold clammy sweat, and *Camphor* also has sweat, but more commonly the patient needing

Camphor is very cold, blue and dry and wants to be uncovered. That is striking. Now we go to *Veratrum* and see that we can have three remedies very much alike, and so perfectly adapted to cholera and yet so different. *Veratrum* is peculiar because of its *copious exhaustive discharges*, copious sweat, copious discharges from the bowels, copious vomiting, and great coldness of the sweat. There is some cramping and he wants to be warm; he is ameliorated by hot drinks, and by the application of hot bottles and hot plates which relieve the pain and suffering.

These three remedies tend downward into collapse and death. Now to repeat: Cuprum for the cases of a *convulsive* character, *Camphor* in cases characterized by *extreme coldness* and more or less dryness, and *Veratrum* when the *copious* sweat, vomiting and purging are the features. That is a little to remember, but with that you can enter an epidemic of cholera and feel at home.

In cholera-like states there are other remedies which relate to Cuprum and which ought to be considered. *Podophyllum* has cramps, mainly in the bowels. It has a painless, gushing diarrhoea with vomiting as well, and hence it has a wonderful operation in cholera morbus.

The cramps in *Podophyllum* are violent, they feel to him as if the intestines were being tied in knots. The watery stool is yellow, and, if examined a little while after, it looks as if corn meal has been stirred in it. The odor is dreadful, smelling only like a *Podophyllum* stool. If you say it smells like stinking meat that only partly describes it; it is not quite cadaveric but it is horribly offensive and penetrating. The stool is gushing, *copious*, and is accompanied by dreadful exhaustion. "It is a wonder where it can all come from," says the mother, speaking of the exhausting diarrhoea in an infant or in a child. The stool runs away gushingly, in prolonged squirts, with a sensation of emptiness, sinking, deathly goneness in the whole abdomen. *Phosphorus* also ought to be thought of in relation to Cuprum. It has also cramps in the bowels, exhaustive diarrhoea, sinking as if dying, but commonly with heat of the skin, with burning internally, with gurgling of all the fluids taken into the stomach; as soon as they come to the stomach they commence to gurgle, and gurgle all the way through the bowels. A drink of water seems to flow through the bowel with a gurgle. Now this gurgling in Cuprum commences at the throat; he swallows with a gurgle; gurgling in the oesophagus when swallowing.

You will do well to go to the Cuprum text, as full a text as you have access to, and find all the complaints that Cuprum has cured, while it is fresh in your memory, with the guide that you have received.—*Hahnemannian Advocate*, Oct. 1897.

VITALITY.

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 College, London, and Consulting Physician to the Hospital;
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IX.—THE INTERSTITIAL CIRCULATION IN ALL LIVING THINGS (*continued*).

Whether the interstitial fluid which circulates in the bioplasm and in the various tissues is derived from the circulating fluid within the organism, as in man and the higher animals, or from the surrounding medium, as in the case of the lowest organisms, the distribution is never equal in all parts of the organism at the same time. In man and the higher animals the supply will be affected by the variation from time to time in the calibre of the vessels which distribute it to the part, and will vary according to the periods of repose and activity. The change in the calibre of the arterioles is effected by a marvellous arrangement which acts automatically. Thus the varying local blood-supply is mainly dependent upon the varying degree of contraction of the muscular fibres encircling the vessels, which is determined by changes in the nerve current effected in the nerve centres, from which the nerves distributed to the arteries emanate. I have done my best to describe and illustrate the arrangement, which is of great interest, in previous memoirs and works.

The bioplasm of those tissues and organs which are necessary to the life of the organism from moment to moment requires a larger proportion of nutrient matter in a given time than the living matter of those which are not constantly in a highly active state. Of the rest some have pretty regular periods of activity and rest, but at all ages the parts which are undergoing renovation are supplied, not only with plenty of interstitial fluid, but very free interchange and admixture of the currents of fluid takes place, so that neither the nutrient matters nor the products of disintegration should form a strong solution. In any given tissue of an animal at different ages there is what may be called a normal rate of vital action of any particular form of bioplasm, and a normal rate at which the conversion of a portion of the bioplasm into formed material takes place, as well as a normal rate at which the interstitial fluid flows to and from the bioplasm. But normal activity varies within certain limits in different organisms and at different ages, and in the same organism at different times under different conditions and in different parts. Living too quickly or too slowly tends to be detrimental, whether the departure from the normal rate affects a minute amount of bioplasm or that of a considerable part or the whole of an organism. A slight departure, however, in either direction from the normal may occur without detriment. Indeed, throughout all living nature these several processes are permitted to vary within moderate range and may be automatically corrected, but neither can proceed far from the normal standard of change without derangement or actual damage; and if the divergence persists for longer than a short period of time serious structural and other

events follow. Physiological may soon be replaced by pathological phenomena. *The too rapid growth and multiplication of the bioplasts, the too quick production of formed material*, are serious departures from the healthy state, and are changes which as it were lie at the root of many morbid processes. Health as well as longevity seems to depend upon the steady maintenance of the normal changes in the bioplasm of certain parts of the organism at the several periods of life.

Should the interstitial fluid become too concentrated, as it does in some departures from the normal state, it might flow too slowly through the tissues for normal nutrition; or by the undue accumulation in it of matters which ought to be quickly removed there is danger of the deposition of certain substances in the tissue, in which case the action of the latter may be seriously interfered with or checked. In some cases the fluid accumulates interstitially to an extent sufficient to cause visible swelling of the tissues in the neighbourhood, and the increased amount of too rapid growth is followed by multiplication of the bioplasts. This undue accumulation of interstitial fluid is not confined to textures near capillary vessels, but occurs also in those which are separated from the capillaries by a considerable thickness of tissue, as in some forms of cartilage and in many epithelial textures. The change in question may occur very rapidly, but may be followed by the deposit of lymph and the formation of fibres, in which case a considerable time must elapse before the fluid poured out is completely reabsorbed and the deposited matter dissolved so that the tissue may regain its normal state. Indeed, to effect this it is necessary that the interstitial fluid should be in a state of dilution for a long period of time.

The importance of the free interchange of the interstitial fluid and the thorough and continued admixture of its constituents cannot be over-rated, and by the great number, constant movement, excessive minuteness, and varied direction of each little stream this admixture is in the normal condition undoubtedly ensured. In the case of the blood-streams, large and small, thorough admixture of the several constituents of the constantly circulating fluid upon a much larger scale is effected by a special arrangement which cannot but be regarded with great interest, and by which several other conditions of the greatest importance in the physiology of the higher animals and man are fulfilled. The red blood corpuscles, in addition to other offices performed by them, are intimately concerned in the admixture of every portion of blood, so that in the normal condition danger from the accumulation of various substances of a deleterious character is reduced to a minimum. These corpuscles are always changing their relative positions with respect to one another, and in the web of the foot of the young frog the soft flattened discs may be seen continually sliding over one another as the blood is propelled through the capillaries. By no other means could such thorough admixture of the dissolved constituents be so certainly ensured in a considerable body of fluid.

In every part, then, of all living organisms, present and past, and at all periods of life, in and around each little bioplast flow very minute streams

in constant motion, some bringing nutrient substances to the living matter while others take away from it and from the adjacent tissue, matters not adapted for nutrition and products which have resulted in the course of oxidation and disintegration. These streams never cease to flow as long as life lasts. In the case of some fully formed hard textures, such as bone and some vegetable tissues, all the streams are restricted to certain defined channels, but even under these circumstances there is free admixture of the portions of the interstitial fluid, and until the tissue is fully formed there is room for several different streams in the space which at length is to become a narrow canal. In every tissue and organ there are multitudes of streams of interstitial fluid, most of which are probably much less than the one-hundred-thousandth of an inch in diameter, passing to and from the particles of bioplasm, moistening, irrigating, cleansing, and preserving the intervening tissue and other kinds of formed material, and at the same time supplying the bioplasm with everything necessary for its life. Thus every part of the body is kept in a state of healthy activity.

There is another point with reference to the nature and influence of the interstitial fluid which it is well to touch upon. Just as we find multitudes of colourless particles of bioplasm in the blood, so very small that they cannot be demonstrated without great care, so, freely moving in the interstitial fluid, are also minute particles probably of similar nature. These, like all other known forms of living matter, take up nutrient material from the surrounding medium and grow; and in certain conditions under which there is much interstitial fluid, increase considerably in size, so that they are to be demonstrated without any difficulty. Such very minute particles of bioplasm easily pass in either direction through the walls of capillary or lymphatic vessels. Whether found in the blood, lymph, or other fluids in serous cavities or in interspaces amongst the tissues, these minute particles of living matter take up any excess of nutrient substances that may be in solution and grow at their expense and, as already stated, also remove certain products of disintegration that may be present, thereby preventing the formation of deposits of various substances in the interstices of tissues, using up and greatly economising nutrient material, and converting it into living matter destined to undergo further changes into substances capable of being assimilated or eliminated directly or in a circuitous manner. This is one of many methods by which steady and uniform vital action is preserved, notwithstanding constant changes tending to disturb the balance.

From some of my remarks it might perhaps be inferred that the streams of fluid constantly flowing to and from the living matter through the moist surrounding formed material or through the fluid medium in which the organism lived, alternated with one another, or that the inward flowing streams were limited to certain paths and the outward flowing ones to others. But the frequent change in the situation of the current as seen in many plant cells render it more probable in my opinion that the streams are not even momentarily restricted either as regards direction or situation. Perhaps these minute streams may be compared with constantly changing

fluid columns, the core of which flows in a direction the opposite of that taken by the circumferential portion. That in certain cases the inflowing stream passes very quickly through the surrounding formed material to reach the living matter seems to me certain, because a few seconds suffice for an alkaline coloured fluid to traverse the outer part of certain cells removed very soon after death and for the colouring matter to reach and be precipitated (?) and retained in the living matter and the nucleus or nuclei in the central part, while the outer portion (formed material) just traversed by the coloured fluid remains colourless.

Whichever way the streams of fluid may be flowing they are seldom straight or symmetrical or regular as regards the distance by which they are separated from one another. As in many other cases in living nature, the shortest, straightest and most direct route is not taken by fibres, tubes, vessels, and many cord-like textures. The currents of interstitial fluid hardly ever flow in straight lines. The same remark may be made with respect to the indications left of the course of the interstitial fluid in the tissues of fossil remains. We find the same general arrangement in the highest and lowest living organisms, whether now existing or in past time. Even the nerves do not pursue the shortest and most direct course from centre to periphery, and sometimes their course is most circuitous.—*Lancet*, Nov. 13,

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**SUCCESSFUL LAPAROTOMY WITH REMOVAL OF BOTH
FALLOPIAN TUBES FOR ACUTE SUPPURATIVE
PERITONITIS, SUPERVENING UPON
DOUBLE PYOSALPINX.***

BY JAMES R. WALLACE, M.D., F.R.C.S.,

*Fellow of the Obstetrical Society of London,
Formerly Resident Surgeon to the Eden Hospital for Women
and Children, Calcutta.*

Mrs. D, a Scotch lady, 28 years of age, of very delicate physique, for some years a resident of Calcutta, six years married, gave birth to her first and only child, 10 months after marriage. No further issue. Has suffered with ovarian pain since her child's birth in June 1893. Came under my care about three years ago for menstrual trouble. Was completely relieved and seemed to regain her health in every way. Being one of my regular annual patients, I frequently saw her, and by means of sedatives timely given, her sufferings were minimised, though every now and again they threatened badly. During my absence in England, she got a severe attack of pelvic inflammation and was attended in August last by Surgeon-Lieutenant-Colonel J. Lewtas, under whose care she obtained very satisfactory relief. Early in October, she was laid up again with pelvic cellulitis, supervening upon a severe chill, due to bathing in a very windy bathroom. Her temperature rose to 105 and kept ranging between 102 and 104 for days. There was intense nausea and vomiting and great pelvic pain and tenderness, more marked in the left iliac region. There was the most troublesome restlessness and insomnia, due to pain, which narcotics and hypnotics could not relieve. Fomentations, local sedatives and counter-irritants all failed to afford anything more than very transient comfort in her great suffering. Examined vaginally and bimanually, the uterus was found immovably fixed, in a dense, hard mass of infiltration, filling the left, and extending partially into the right cul-de-sac. This swelling almost reached to the umbilicus above and pressed firmly on the sacral hollow. It was devoid of resiliency or any sign of fluid formation. This state of things continued till the 8th November, when on examination I detected distinct fluctuation in the left cul-de-sac. The patient had now become very low, and as the exhaustion coupled with the high temperature present, pointed to considerable risk, I advised a consultation with some other physician. I therefore asked Surgeon-Lieutenant-Colonel A. Leahy to see the case with me. He confirmed my opinion as to the fluid formation in the left iliac region, and agreed with me in the view that immediate aspiration should be resorted to. I accordingly called in Dr. J. G. Anderson, who chloroformed the patient, and I aspirated the left cul-de-sac, drawing off nearly five ounces of thick, grey colored pus. This was followed by immediate relief

* This very important case, remarkable for the rapid recovery of the patient after a most serious operation, came too late for insertion under our Clinical Record.—*Ed., Oct. J. Med.*

and comfort, and sound sleep, together with a fall of temperature to normal. For three days the patient seemed doing most satisfactorily, but on the fourth day after the operation, pain and tenderness returned, together with fever which rose again to 104, attended with the same restlessness and insomnia.

On the 14th October the patient was very much worse; the abdomen was greatly distended and tympanitic, and acutely tender to the touch; the pulse was small and thready and intermittent; the body was bathed in cold perspiration; and collapse seemed imminent. Vaginal examination proved a re-accumulation of pus in the left side of the pelvis, while in the right cul-de-sac there was a similar fluctuant tumefaction. I called in Dr. Leahy, as I felt convinced that general pelvic suppuration with peritonitis of a like character had set in, and the saving of life could only be effected by abdominal section and rapid washing out of the peritoneal cavity. Dr. Leahy concurred in this opinion, and I resolved to let the patient have the best and only chance of recovery. Her critical condition was explained to her and her husband, and the risks of the operation were also clearly set forth to them. They both readily decided for the operation. The room was an upper flat, airy apartment, (surrounded on every side by other houses, and in the most densely populated portion of the English quarter of the city. The room having been thoroughly swept, the walls well dusted, all hangings removed, and the floor washed with a strong solution of carbolic acid, nothing but the operating table, the nurse's bed, a couple of chairs and side tables were placed in it, every other item of furniture being turned out. As helps at the operation I had Dr. Ayatulla, M.B. Edin., Mrs. E. W. Madge, L.M.S., and Nurse Robson.

As it was decided to operate at 2 p.m., no food was given to the patient from 10 a.m. At noon an enema was administered and the patient's bowels were relieved, her bladder was also emptied and the hair shaved from the pubis, while the abdomen and thighs and back were thoroughly washed, and a sterilised towel soaked in hot carbolic acid solution was laid over the abdomen and the vulvæ, and tucked under the nates. The preparations for the operation were simple and were as follows:—About 40 gallons of pure boiled water, cooled down to 100°F; a dozen new hand towels, two new flannel binders, 4 yards of gauze, some cotton wool, a dozen sponges a two-quart irrigator fitted with a new rubber tube, stop-cock and pipe; a bucket, a glass tray for instruments, and two pus basins. The instruments for use were a scalpel, a dissecting forceps; a pair of dressing scissors, a director, six Spencer Wells' forceps, two metal retractors, six curved surgical needles and a needle-holder, besides silk, silver and horse hair sutures. Everything used in the operation was sterilised, i.e., put into boiling water for twenty minutes, except rubber tubes, which were irrigated and carbolicised. At 2 p.m. the patient was placed under chloroform by Dr. Ayatulla, the abdomen and other parts were carefully bathed and scrubbed clean, and the two assistants (Mrs. Dr. Madge and Nurse Robson) and myself, having first of all undergone the most careful cleansing of our hands and

nails and arms, (each one's nails were cut short) by means of repeated washing with soap and boiled water, and scrubbing with nail brushes, the abdomen in the median line, was laid open carefully down to the peritoneum, by an incision 4 inches long. All bleeding points were secured and the peritoneum nicked up and slit over a director. The peritoneum was found thickened and inflamed and covered with caky deposits of lymph which had caused firm adhesions between this membrane and the intestines. By gentle manipulations these were freed, and then the true state of things in the pelvis was revealed. The pelvic cavity was filled with an indescribable mass of hardened tissues and organs whose outlines were completely disfigured by inflammation and suppurative changes. Most patiently and carefully, however, the uterus was cleared and then the ovaries were reached and it was seen that the tubes were enormously distended with pus. They were both freely incised and about eight ounces of pus came away. This was removed from the pelvic cavity by means of soaking with sponges: It was now found that the membrane of the tubes looked very sloughy, almost gangrenous, so I snipped off all the unhealthy looking shreds and finding the ovaries healthy, I left them untouched. I now allowed a stream of sterilised water to flow into the abdomen and thoroughly wash out its entire cavity. Having assured myself that there were no bleeding points (the few that showed themselves were stopped easily by a few moment's pressure with Wells' forceps), and that the pelvis was thoroughly clean, I placed a large rubber drainage tube into the pelvic cavity and fixed its outer end to the lower angle of the abdominal wound. This was removed after 48 hours. I now stitched the edges of the incision together, using three consecutive layers of stitches, the first of silk for the peritoneum, the next of silk for the abdominal muscles, and the third of silver wire for the abdominal wall (skin and fat). Superficial horsehair stitches were used to accurately co-adapt the edges of the cut skin. The dressings consisted of sterilised gauze and sterilised cotton kept *in situ* by a sterilised towel used as a binder. This dressing was not changed for two days. The patient bore chloroform well and also the early part of the operation, but by the time she was dressed, the pulse had run down alarmingly and she was in a state of collapse. An enema of brandy and egg yolk and milk (the yolk of one egg, a dessert spoonful of brandy and two ounces of milk) was given per rectum and repeated every two hours. Hot bottles were placed around the trunk and extremities. She was allowed to suck ice, but nothing else was given her by the mouth for 48 hours. After the first rectal injection the patient rallied and continued to improve. Beyond a little burning pain in the wound, the operation was followed by a complete subsidence of the fatally threatening peritonitis and absolute relief of all pain, a complete lowering of febrile temperature and the most refreshing sleep. Nothing could have been more gratifying than her condition for the first 48 hours after the laparotomy. Within 8 hours of the operation, the patient voided urine, and within 20 hours the bowels moved naturally. On the second

day after the operation, after the removal of the dressings, the patient began to suffer with a teasing sense of twitchings in the wound, but this was due to flatulence, as it was relieved by a dose of oil of turpentine. This was accompanied by some degree of restlessness and sleeplessness, which were combated by Battley's sedative.

The diet after the first 48 hours (when the rectal feeding ceased) was soup, sago, milk, water and grapes, and this was continued till the 8th day after the operation when light solid food was allowed. The outer stitches were removed on the 8th day, and the wound was found healed by first intention, save in a spot over one of the deeper sutures. From this place a little pus oozed for a few days, and then I closed the 'gap' with a horsehair stitch and it healed at once. There is nothing further of special interest to note, save that the subsequent convalescence of the patient was unmarked by a single bad symptom. It is of importance to remark, from a clinical, as a well as a physiological and anatomical point of view, that the patient had a free and painless menstruation 34 days after the operation. It may be interesting to mention that on the 14th day after the operation, she was well enough to sit up, that she left her bed on the 20th day and was going about in her carriage on the 30th day, though she underwent so severe a surgical operation for a serious and critical malady which threatened to destroy her life.

This case is further worthy of record among the few successful ones of its kind that have been performed in India.

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THE BRITISH MEDICAL JOURNAL ON FAMINE
AND PLAGUE IN INDIA.

[THE following leader on the administration of the Famine and of the Plague in India, which appeared in the *British Medical Journal* for the 8th ultimo, is deserving of the careful consideration of our Government. That the administration of the famine, one of the most acute and the most extensive that has ever visited any country, has, ever since the Government awoke to its responsibility, been as successful as human effort could make it, is a most gratifying fact. The fact regarding the administration of the plague in the Western Presidency is the very reverse of gratifying. It is indeed the most melancholy that could be imagined. That the disease should, in the face of the present advanced state of medical and sanitary science, be able to defy both, does not afford a favorable commentary on the efficiency and propriety of the ways and means that have been devised to combat its spread and its virulence. Under the circumstances the authorities cannot do better than reconsider what they have been hitherto doing. That segregation has miserably failed in arresting the progress of the epidemic, that the much vaunted ordinary "rational" treatment of the old school has failed in mitigating

its virulence and reducing its mortality, it is no longer possible to deny. To persist in the old ways which have been attended with such want of success would be neither logical nor humane. We maintain that segregation in the reckless way it is being enforced, should be abandoned and that other systems of medical treatment should be allowed fair play.—*Editor.*]

"INDIA has had to encounter no ordinary trials during the past eighteen months. Troubles have not come singly. Famine, earthquakes, war, and pestilence have followed in quick succession, each being of such dimensions as to constitute in itself alone an enormous task for the Government of India. The famine threatened twelve months ago to be the greatest calamity, but it has been tided over with a marvellous success. There can be no question as to the brilliancy and effectiveness of the measures taken to combat the danger and to distribute food to the famished millions. Guided by officers experienced in this special work, the Government of India has been able to carry out schemes of relief which have never been equalled in magnitude by any other Government in the world, or by any previous efforts on the part of the Indian Government. The number saved from starvation is enormous.

"This success has been mainly secured by acting on the principle that officers trained in the methods of dealing with famine were the best to organise and conduct famine operations. It is a principle which is also and rightly followed in the case of war. In the war against the rebellious tribes on the North-West Frontier the best officers in the Indian army were sent to conduct the campaign. The principle is here recognised that those who are trained to the work know best how to direct and conduct it. This is common sense.

"It is, therefore, a matter of surprise that a similar policy was not accepted and adopted in the fight against plague. The prevention and checking of the spread of plague are essentially medical questions, and it was to have been expected that the medical profession would have in this instance been given positions of prominence and trust. But this has not been so. Trained medical men, as the controlling agency, have been conspicuous by their absence. Their part has been a secondary one, while military and civil officers have played the prominent

part in direction and control, and have been appointed to positions for which they are not specially fitted either by knowledge or training. This is not in accordance with common sense.

"It is a curious spectacle, this reversal of the ordinary conditions of life—the untrained trying to command and lead the trained. If a similar policy had been adopted against plague as was wisely observed in the famine and the frontier war, there can be little doubt that a similar success would have attended the efforts of Government, and there would have been no occasion to deplore the enormous loss of life which is now taking place in the Bombay Presidency. The disease in its progress from village to village, and from district to district is gradually raising a bill of mortality which, if it occurred elsewhere, would be viewed with something more than alarm.

"Possibly one of the reasons for the adoption of this fatal policy by the Indian Government was that a large number of its medical officers were employed in famine duty, and later a still larger number with the troops on the North-West frontier. Still it does not explain the failure to utilise them in the earlier periods. The fact is that there is no special sanitary service in India. It is impossible to call the Sanitary Commissioner with a few deputies for each of the provinces, some of them the size of European States, a sanitary service. The Sanitary Commissioners are officers without men, and their power is limited. To make their task yet more hopeless they must submit to have their reports criticised by another department and then shelved. The power of a department in India depends very much on the rank and pay of its officers, and the tendency for many years past has been the reduction of both in the so-called Sanitary Department.

"The fatal effects of this mistaken policy and want of an established sanitary service has been but too well demonstrated within the past eighteen months, when efforts have been made to combat the plague by combatant officers, by civilians, by any officials, in fact, save by medical men, and the highly organised and trained sanitary service which they ought to have under their orders. Is it too much to hope that the medical men recently sent out to India by the authorities at the India Office will be allowed to stay in

India, or that special steps will be taken to find substitutes for them who shall form the nucleus of that imperial and provincial sanitary service in India which has yet to be organised."

DR. BLANEY ON SEGREGATION OF MORIBUND PLAGUE CASES.

[DR. BLANEY has written the following letter, alike scientific and humane, to the *Times of India*. We should like to know if what he so bitterly complains of is a fact, and if so who is responsible for such a state of things? If such is the actual treatment which human beings are receiving at the hands of human beings, we cannot blame the victims of such treatment if, in the anguish of their hearts, they curse the stars whose malefic influence affected their nativity—the hour and the place of their birth, and if they curse also the science or sciences falsely so-called which could turn the hearts of men into stone. We cannot blame them if they remind us of the immortal lines of Wordsworth :

To her fair works did nature link
The human soul that through me ran ;
And much it grieved my heart to think
What man has made of man.

Through primrose tufts, in that sweet bower,
The periwinkle trailed its wreaths ;
And it is my faith that every flower
Enjoys the air it breathes.

The budding twigs spread out their fan,
To catch the breezy air ;
And I must think, do all I can,
That there was pleasure there.

From Heaven if this belief be sent,
If such be nature's holy plan,
Have I not reason to lament
What man has made of man ?

It is a puzzle to us that the whole medical profession in Bombay should not have raised an emphatic protest against a procedure which is at once inhuman and unscientific. No wonder that the deaths from the disease should have been increasing so alarmingly of late. It is not so much the disease then as the treatment, we do not mean the medical, but the preliminary rough treatment of removal to which its victims are subjected, that is responsible for

the high death-rate which has thrown the whole country into such consternation.—*Ed.*]

“Will you allow me to plead in the cause of humanity on behalf of the dying and moribund victims of the plague who are being carried away in large numbers from their houses to plague hospitals on detection by the agents of the Plague Committee? Whatever value that Committee may place on the segregation of plague-stricken persons from poisoned houses with overflowing population is best known to themselves. I have already had an opportunity of criticising this supposed measure for abolishing the pestilence in this city after the disease has acquired its full strength, and need not therefore return to the subject. My concern now is with the exhausted and the dying, with those upon whom death has already laid its hand, and whose recovery is hopeless. To hurry away such cases to plague hospitals can be of no possible service to the victims; while the untimely removal adds immensely to the affliction and distress, not only of the household, but of the whole neighbourhood. Since the increased virulence of the present epidemic commenced a month ago, numerous cases have been sent away from their houses in a hopeless and even a moribund condition, to die in the hospitals in a few hours, or even minutes, after admission, and these hopeless cases are increasing day by day with the increase of the epidemic. Is it not humane and friendly to allow such cases to remain undisturbed with their friends until the final release comes? It is not a question of a caste or class, or creed, or nationality, but a question simply of humanity to let the dying die in peace. It is from this point of view I now plead for the helpless and the sore distressed. I cannot myself see the slightest danger to public health in making this concession—if that is what I must call it—to what I know to be a widely extended public feeling. To carry segregation to the bitter end by insisting on every plague case dying in the street, or in a plague hospital, is to make use of these hospitals as morgues or mortuaries. Surely these hospitals are quite enough filled with horrors of their own without adding to them by piling up dead bodies on the premises, and by exhibiting the moribund and the dying in large numbers in the hospital to the already distressed patients in the wards. And surely these hospitals

were never intended to be exhibitions of special terror, as they cannot now fail to be when they are being filled daily and hourly with dying persons. I see removals of this kind every day, and the more I see of the system the more I deplore it. I believe the persons who deplore it even more than I do are the medical men who find themselves presented with practically dead bodies.

"May I not therefore plead for the immediate cessation of a system of dealing with plague which is destitute of common sense, and of all feelings of humanity."

"A PLEA FOR SOLIDARITY."

UNDER the above heading there is an excellent article in the December number of the *Homœopathic World*. It is short, but abounds with sound sense and is pervaded by a true spirit of catholicism. There is so much need of both in our country that we would earnestly recommend all our Indian colleagues to peruse it and act up to the advice given by our contemporary. The motto of every physician, and of every homœopathic physician in particular, should be as enunciated in the article—"Homœopathy is greater than Hahnemann; therapeutics is greater than homœopathy," because "truth is greater than any individual who first sees it."

We have been giving expression to the above views ever since we started in our journalistic career. In the very first article entitled OUR CREED (January 1868) we said: "We have of course our own creed and our own opinions, but we shall not only tolerate but show due respect towards the creed and the opinions of others, whenever sincere and temperately expressed. We do not pretend to have the monopoly of wisdom and truth. We shall not ignore facts which we cannot account for, or which clash against our preconceived ideas. Facts such as these will only serve to stimulate us to further and more careful inquiry, and we shall always allow them to exert upon us the wholesome influence of moderating our dogmatism."

Difference of opinion is inevitable in our present state of existence when we can only see through the glasses of our finite senses darkly. Each truth is infinite, that is, has infinite aspects and bearings, and it is not possible with our limited faculties

to grasp it in its entirety. It is not to be expected that every one of us should have a full glimpse of the same aspects and bearings. Into every observation there necessarily enters an element of personal equation which must not be ignored but taken into account. It is by the integration of these infinitesimal variations in the presentation of truth that we arrive at its maximum view. As our contemporary has well said: Heresy and schism are "the normal method of progress towards higher development. No schism—no progress: 'The first visible change that takes place in an ovum after impregnation' is the division of the yolk. And the division is repeated again and again to an infinite extent, until, by and by, out of the reconstructed elements a new organism appears. Therefore, welcome heresy and schism! The accidents, as we may call them, that generally accompany the process in human society—envy, hatred, malice, and all uncharitableness—having nothing to do with the divine order of the process itself. They are the outcome of the undeveloped mental states of those among whom the events are occurring."

We would most gladly welcome heresy and schism were it not for the "accidents," in the shape of "envy, hatred, malice, and all uncharitableness," that not only generally but almost invariably accompany them. As simple expressions of differences of opinion based upon observations from different standpoints they not only do not retard, but accelerate progress. But when accompanied by the "accidents" they offer the greatest obstacles to progress. These accidents are found not only among the heretics and the schismatics, but are found in the most intensified and virulent forms among the orthodox.

Had it not been for the envy, malice, hatred, and the most unjustifiable uncharitableness of the orthodox majority of the medical profession, therapeutics would have worn a different aspect from what it does now. Medicine as a science would have been on a par with the other sciences, and would not have presented the most ugly, the most unprofessional, the most unscientific spectacle that it is doing before the whole world,—the spectacle of a majority persecuting a minority for following the dictates of their reason and conscience. There would have been some justification for this persecution if there had been unanimity among the majority themselves. But is not the fact the very reverse of

this? Has not the disagreement among members of the medical profession passed into a proverb, and is not this disagreement particularly noticeable in the old school? Is it not strange then that the dominant majority should agree only in their hatred of a particular class of heretics?

What can be more regrettable than for men, whose mission is the most charitable on earth, to be uncharitable towards one another in a way that has no justification in morals or in science? Nearly a century has been wasted in this unseemly quarrel. What a loss to science and humanity! What an immense gain would have accrued to therapeutics if the energy, that has been thus frittered away, had been devoted to the proving and re-proving of drugs! If the old school had joined hands with the new in doing this, much would have been done towards the determination of the problem—whether there are one or more laws of drug action which are available for therapeutic purposes. The new school having to act on the defensive, having in the beginning, and in some countries even now, to struggle for very existence, has had to waste much time in polemics. We do not say that it has not advanced therapeutics beyond the point in which it was left by Hahnemann. Much indeed has been done in the way of provings, but much more could have been done if it had been left unmolested so as to be able to carry on researches on the lines chalked out by its great Founder.

Deplorable as is the division of the profession into two contending schools, not less if not more deplorable is the division of the new school into several wrangling sects. It was the boast of homœopathy in the early part of its career that there could be no difference of opinion among its practitioners. We know to our chagrin how ill that boast has been maintained. The law of cure may be a perfect law, but the materia medica with which the law has to be applied, though vastly superior to that of the old school, is still very imperfect both from the smallness of the number of drugs actually proved and the deficiencies in the provings themselves. Added to this we have the fact that the range of dose to which the homœopathic materia medica is susceptible is very large compared to that of the old school. And in fact, the chief reason of division among homœopaths has arisen from the question of dose which has given rise to what are called low

and high dilutionists. The former would prefer the mother tinctures and dilutions up to the sixth centesimal, and consider dilutions higher than Hahnemann's thirtieth as transcendental nonsense. The latter consider the thirtieth as the lowest that should be used and soars to and revels in heights invisible to mortal eyes and unrecognizable by finite reason. . .

Another reason which has given rise to division in our ranks is to be found in the basis of the similarity upon which the law of healing is to be applied. Some would have this basis in symptoms alone, some in pathological conditions alone; very few would have both combined wherever possible. Among symptomatists may be found differences as regards totality; some insist upon a strict totality, some are satisfied with what are called "key-note" symptoms. Then again, there are some, and these are generally the high dilutionists, who would stick to the single remedy; there are others, and they are found among low dilutionists, who would not hesitate to alternate and even to mix medicines. And sad to say there are many, and their number is increasing, who do not scruple to borrow from the old school and indeed from any source drugs on the flimsiest pretences, and they consider it homœopathy if they use them in dilutions.

It is a sad disclosure which our contemporary makes when he says—"We have known homœopaths get on much better with allopaths than with members of their own school holding views differing from their own by an almost imperceptible shade." Is homœopathy then in a worse plight in England than in our country? We cannot understand how members of our school can get on at all with members of the other school, except in the matters of diagnosis and prognosis, without the sacrifice of our fundamental principle of treating our patients under the guidance of the law of similars. As our contemporary says, "we have not the least objection to the fraternising of homœopaths with allopaths: on the contrary we heartily approve of it." But this fraternisation becomes suspicious when it is incompatible with the fraternisation of the former among themselves. Such fraternisation savours of "toadying to the dominant section," and presents the humiliating "sight of positive truth paying court to established negation."

There cannot be the slightest doubt whatever that this sectari-

anism in the new school is no less a bar to therapeutic progress than is the division of the profession itself into two schools. It is the more to be regretted that agreeing in fundamental principles the practitioners of homœopathy should quarrel about unessential points. If instead of doing this they had devoted themselves to the perfecting of the materia medica,—to proving new drugs and subjecting old ones to thorough reprovings with the aid of modern appliances;—the unessential points would probably never have cropped up, and the law of healing would have been established on a firmer basis still.

There is yet time to mend, and when there is agreement in fundamentals there will be no difficulty in mending. We have only to concede to others the right we claim for ourselves, the right of treating our patients according as we are directed by our judgment and conscience; and “to recognize through contending emotions and personal feelings the good that may exist in those who differ from us.” If we remember that it was the denial of the right in question to Hahnemann by some of his colleagues that was the cause of the split in the profession we so much lament, and if we remember that we are the victims of an unrelenting persecution having its origin in difference of opinion, we would sink all our petty, paltry differences and rally our scattered forces under the banner of the *similia similibus* law which our Master unfurled in his crusade against ignorance and dogmatism.

The most efficient means by which this consummation so devoutly to be wished can be brought about in our country is the establishment of a society where we can periodically meet for the exchange of our thoughts and experiences. The moral influence of such meetings in smoothing all uncharitableness and in imparting a healthy stimulus to the intellect is unspeakable. Our invitation for the reconstruction of the society that already exists has found but one sympathetic supporter to whose letter in another column we would earnestly draw the attention of all our other colleagues.

THE LATE DR. JUGGO BUNDHU BOSE.

It is with deep regret that we have to announce the death of Dr. Juggo Bundhu Bose, on the night of Monday the 21st instant. He was born in April 1831. He was educated in the Dacca College, where he first came in contact with the late Babu Prosunno Coomar Surbadhicary, whose training did not fail to leave its mark upon the stripling. Juggo Bundhu won his junior scholarship in 1849, and retained it next year having been promoted to what was then called the fourth college class (corresponding to the first year's college class of the present time).

He joined the Medical College of Calcutta in June 1851, and had his scholarship transferred there. He also obtained a scholarship of Rs. 8 a month from the Medical College. At the end of the first year he won the Goodeve medal for dissection in Anatomy, and next year he was appointed a prosector to the professor of anatomy, Dr. Allan Webb. At the close of the session he obtained a gold medal in Anatomy, and certificates of honour in Physiology and Botany, and his answers in Descriptive Anatomy were printed in the Education Report. At the end of the third year he obtained gold medals in Chemistry and Materia Medica, and certificates of honour in Botany, Anatomy and Physiology. His answers in Materia Medica were also printed in the Education Report. In 1854 he passed what was then called the Junior Diploma Examination, and headed the list of the successful candidates. In the fourth year, he obtained the gold medal in Medicine and clinical prize, the first prize in Midwifery and the Goodeve scholarship. At the termination of the fifth session he passed the Senior Diploma Examination with great credit and stood on the top of the list.

After his graduation he was sent to Akyab to take charge of the Seamen's Hospital there. Here he distinguished himself as a successful practitioner. As a reward for his services he was appointed second Demonstrator of Anatomy under Dr. H. Walker in the Calcutta Medical College, and many a student of the College, among whom we are proud to reckon ourselves, still bears testimony to the great success with which he taught dissection. After holding this appointment for about seven years, he became a lecturer to the Vernacular Classes attached to the College, where he taught Anatomy for six years, and afterwards Materia Medica for twelve years. In 1863 he passed with success the M. D. degree examination of the Calcutta University. We (the editor of this Journal) had the honor of being associated with him in passing this examination. In 1874 the vernacular classes were converted into an independent medical institution under the name of the Campbell Medical School with a Superintendent of its own. He continued to deliver here lectures on Materia Medica,

and became also second physician to the Hospital attached to the School. He discharged the duties of these dual appointments till 1883, when an attack of paralysis which had seized him two years previously forced him to retire from Government service. He was one of the foundation members of the late Bengal Branch of the British Medical Association at whose meetings he read several interesting papers.

After his retirement from Government service, he devoted his labours to the establishment of a private medical institution. The Calcutta Medical School has thus sprung into existence. For three years he was its President, and honorary lecturer in Medicine. To promote the study of practical Anatomy, he induced Government through the Director of Public Instruction to allow dead bodies to be sent to the institution for purposes of dissection. It was mainly through his exertions also that an out-door dispensary was established in connection with the school.

In 1879 he was appointed a fellow of the Calcutta University, and for several years Examiner of its candidates for medical degrees. He was a member of the Calcutta Medical Society, a Vice-President of the Indian Medical Congress of 1894, and President of the Medical Association of India established in February of that year. The College of Surgeons and Physicians of Bengal has been established chiefly through his exertions. His love and respect for his parents were exemplary. He enjoyed a large and lucrative practice. He was very jealous of the legitimate dues of the profession, and he was very strict in the exaction of his fees. He was very economical in his expenditure. He had thus amassed an amount of wealth which was considerable for an Indian medical practitioner, not a small portion of which he devoted to unostentatious charitable purposes. He founded a charitable dispensary in the place of his birth, and many of his relatives and acquaintances have derived benefits at his hand.

REVIEW.

The Scientific Basis of Medicine. By I. W. Heysinger, M.A., M.D., Author of "The Source and Mode of Solar Energy throughout the Universe," "The Battle against Prosperity," &c. &c. Boericke & Tafel, Philadelphia. 1897.

THIS little book came to hand through favor of Messrs Boericke and Tafel long ago. We were dissuaded from taking it up by the very first paragraph of the preface in which we are told—"The purpose of this book is to briefly point out, both for the laity and the profession, in an interesting manner the historical and scientific principles of modern physic," &c. We thought that an author, who can say so of his own production, could not have

much to say. We must apologise to both author and publishers for this hasty judgment which was based upon a single sentence perhaps carelessly written in the flush of excitement.

A perusal of this booklet will show that our author is endowed with an ardent temperament, which has enabled him to produce a really *very interesting* essay on Homœopathy, which will more than repay a careful perusal.

The work is divided into fifteen sections, each of which is replete with observations, which we would recommend all young practitioners, both of the old and of the new school, to "weigh well and consider."

We are in perfect accord with the author when he insists, in the first section, upon "the importance of investigating anew, from time to time, the basic principles of Medicine." In reference to Homœopathy he very justly says, "in reality there never was a time in its history when it was more necessary than it is at this day to take our correct bearings again, by the light of the undying stars; for popular success has brought, in numerous instances, the penalty of success, in our art as in all other arts, and this penalty is carelessness, faithlessness, transcendentalism, color-blindness, and loss of sane perceptions of solid fact in the mazes of mysticism and fancy; or else, the following after false gods, and in many cases the gods already forsaken by their former worshippers, and the seeking a new popularity at the expense of the old, or endeavouring to reach a factitious 'originality,' by proclaiming contempt for the achievements of the past."

Here we have, though perhaps a little obscured by a cloud of metaphors, a series of indictments against the practice of some members of our school which are but too true. The practice thus condemned is most unmercifully bringing upon us the ridicule and condemnation of the other school. The author tells us that "one of our well-known homœopathic pharmacists (and these men can feel the professional pulse as no others can do) said recently, in confidence, that a large part of those least grounded in the profession was going adrift—that skepticism in medicine was becoming the rule of belief with many of these, and that the already rejected remedies of our one-time enemies were now in high repute with many of our less taught physicians. Anti-pyrine and its later kindred demons hold high revel in many a homœopathic temple to-day." We have no objection if those, who are coming over to us from the other camp, use in the beginning of their practice, their old weapons when they are unable from want of sufficient knowledge to use ours with precision. But we certainly object to any one habitually and secretly using old school drugs, such as purgatives, narcotics, &c., in the garb of homœopathic triturations.

In seeking for "the malefic origin of this strange revolution,"

Dr. Heysinger finds that though "homœopathy is quite invulnerable against attack from without," heavy blows have been struck at it from within. He gives the first place to the "key-note theory." "It was so simple, so easy and so beautiful," that it made it unnecessary "to know anything about anything." The key-note theory legitimately applied serves to distinguish one drug from another and not unoften to find out drugs which apparently do not cover the totality of symptoms in exceptional cases. But we must say that this theory has been carried to the extreme of folly, so that, as the author points out, it is essentially death to homœopathy, covering the totality demanded by it after a fashion which only kills it.

He next refers to the multiplicity of so-called provings which have thrown grave doubts on the utility of proving itself, the proving of white sugar, the proving of plum-pudding, the proving of all manner of filth without being certain of the uniformity of their composition, and, our author might have added, the proving, not in figure, but in very fact, of moonshine—luna! "Do not such things," he asks, "indicate a certain sort of locomotor-ataxia of the intellectual-faculties? What must be the inevitable result of the enunciation of such vagaries before a class of rising physicians? The weak-kneed, the doubting, and even men of intellect will feel like casting about for something having a fixity of some sort to which they can tie, and they often do this surreptitiously instead of openly, and thus vitiate their whole practice."

It has appeared to us not a little strange that while Dr. Heysinger has thus very properly condemned these unhomœopathic practices among those who profess homœopathy, he has himself advocated and recommended a practice which is unhomœopathic in so far that it has not the sanction of Hahnemann in his maturer years, nor the countenance of the great majority of the homœopathic branch of the profession. This is the practice of the alternation of medicines. The section (tenth) which he has devoted to the treatment of this subject, appears to us as the least satisfactory portion of his essay. The arguments he has used to maintain his position are the weakest that can be imagined. The use of the single remedy is, according to him, "the only point of weakness in the homœopathic practice of medicine." He goes so far as to maintain "that not only is the habitual alternation of medicines true Homœopathy, but there can be no real Homœopathy, in its broadest sense, without it." He thinks that this "can be shown and proven without difficulty, and to the satisfaction of any intelligent and unprejudiced person." What is his argument? "Unless we superpose limited remedial spheres of action by the use of drug mixtures, to make a perfect whole, (which is impossible, since expected results will not

appear), we must do so, to cover the whole pathognomonic field, by alternation." This is, to say the least of it, begging the question. Why should we assume that we have always to depend upon "limited spheres of drug action?"

The argument that Hahnemann had a large practice and did get on successfully with the limited number of drugs he had proved, and that therefore we should get on similarly with the same number of drugs, and abstain from adding to the *Materia Medica*, is so absurd on the face of it, that it is a wonder to us that the author did not perceive it. If we are to set a limit to the number of drugs we are to use, where is that limit to be put? Hahnemann did not prove all the drugs at once, and if he had lived longer he would have proved many more. Would it have been wrong on his part to have done so, because that would have rendered "the physician's work more complicated and difficult, harder to learn and harder to practice?" What evidence is there that Hahnemann was successful in every case that came under his care? Could he have cured cases which can only be cured by *Lachesis*, or *Crotalus*, or *Cobra*, by *Baptisia*, or *Gelsemium*, or *Phytolacca*? Did he alternate? What does he say about this? "In no case is it requisite to administer more than *one single, simple* medicinal substance at one time." (*Organon*, §272). And in a note adds: "Some homœopaths have made the experiment, in cases they deemed one remedy homœopathically suitable for one portion of the symptoms of a case of disease, and a second for another portion, of administering both remedies at the same or at almost the same time; but I earnestly deprecate such a hazardous experiment, which can never be necessary, though it may sometimes *seem* to be of use."

The argument from the compositeness in structure and effects of drugs has long been exploded. It was advanced by one Edinburgh professor (Dr. Simpson) as an unanswerable argument in favor of the mixtures of the old school, and as unanswerably refuted by another Edinburgh professor (Dr. Henderson) on the simple ground that it is proving which constitutes the essential basis of unity and uniformity, no matter what the complicated composition of a drug may be. And to have advanced such an argument in the present day in favor of alternation does not speak much in favor of the author's knowledge of the literature of our school.

We must not be understood to object *in toto* to the alternation of medicines when absolutely necessary. But we strongly protest against alternation being proclaimed as the only true Homœopathy.

Barring this unfortunate section, the whole book is delightful and instructive reading, and we would recommend every one interested in medicine to have a copy.

Correspondence.

NECESSITY OF A 'SOCIETY FOR HOMŒOPATHIC PRACTITIONERS.

To THE EDITOR, *Calcutta Journal of Medicine.*

Sir,

IN your valuable Journal for December last, you have been pleased to reiterate a call for the formation of a society of qualified homœopathic practitioners. Though the necessity for such union amongst us has long been felt, yet for some reason or other, the consummation so much to be wished has not yet been effected. Your call has been a most opportune one at the present moment, and I expected a ready and enthusiastic response to it from all our colleagues. But though two months have elapsed since the issue of your December number I do not find any signs of what I had fondly hoped for.

When there is a large section of the profession under the protection and patronage of the State, it is incumbent on the minority to hold its own against the oppression of the favoured majority by concentrating its strength. At a time when plague is making a dreadful havoc in the Western Presidency, it is entertaining no idle fear that it may any day be in our midst. The treatment of plague cases in that part of India, which has been altogether under the guidance of the old school, has proved an utter failure. The efficacy of segregation, from which *so much was expected*, has also been questioned. The adherents of the orthodox system have societies of their own, but the new is still without one. A Hahnemann society exists, it is true, but for a ceremonial purpose only. By enlarging its scope, as you have suggested, it will serve the purpose. When a society has been established, we shall have a firm basis from which to show the Government our indubitable existence, and then it would find it difficult to ignore us. We may have the active co-operation of our colleagues in England, who probably have a voice in the greater India of the Secretary of State. I think the opportunity has come for endeavouring to secure the recognition of our Government, especially as regards the homœopathic treatment of plague cases.

I would advise our colleagues to follow the advice which Lord Tennyson gave to his grandson :

" You my Leonard, use and not abuse your day,
Move among your people, know them, follow him who led the way.

* * * * *
Follow Light and do the Right—for man can half control his doom—
Till you find the deathless Angel seated in the vacant tomb."

Yours faithfully
SINE QUA NOX.

EDITOR'S NOTES.

Insanity following Abuse of

Annales Médico-Psychologiques relates, on the authority of the *Temps*, that, following a six-day bicycle-run, organized in New York, in which the prize men made almost 2,000 miles, these and others of the racers manifested serious mental disturbances. The champions reached such a state of excitement that they showed signs characteristic of mental alienation. A negro, after racing two days, refused to take any nourishment, accusing those around him of wishing to poison him. Doctors present declared that the men were affected only temporarily, but might be chronically if such excess were kept long.—*American Medico-Surgical Bulletin*, Dec. 25, 1897.

Compressed Flour.

The British Admiralty and the War Department are testing, under various climatic conditions, the new method for preserving flour. One objection to the establishment of national granaries has been the difficulty of storing grain for any length of time. The grain germinates and is ruined, and to keep large quantities in sound condition has been pronounced impracticable. Experiments are being made with a system of compression into bricks by hydraulic pressure. The trials show that the flour so treated is not affected by damp, even under unfavourable conditions, and is free from mould. The compression destroys all forms of larval life and the flour is thus rendered safe from the attacks of the insects. The saving in storage is enormous, as the cubic space occupied by 100 pounds of loose flour will hold more than 300 pounds of the compressed article.—*Scientific American*, Dec. 25, 1897.

**Congenital Absence of the Right Eye and Fissure
of the Nose.**

We are indebted to the *Lancet* (Jan. 1, 1898) for the following account, by Dr. W. G. Nash, of a child, aged six months, who was born without the right eye and a fissure of the right side of the nose. The right palpebral fissure was small, and the socket looked very much like that seen after removal of the eye except that a small pigmented body about the size of a pea occupied the centre of the cavity. "This is the eye the development of which was arrested at a very early stage. The right side of the nose is fissured up to the lower edge of the nasal bone. The right nasal bone is slightly separated from its fellow and causes a slight flattening of the bridge of the nose. Near the tip of the nose is a small projecting nodule very much like the small supernumerary auricles so commonly seen. The mother attributes the deformity to the fact that she was frightened by a strange dog jumping in to her bed when she was three months pregnant."

The Meeting of the Russian Institute of Experimental Medicine.

The Russian Institute of Experimental Medicine, at St. Petersburg, held its seventh annual meeting on December 20, 1897. The Institute consists of six scientific sections and one practical section, and during the past year no less than 120 persons took part in its regular work, which is carried on in the departments of biological chemistry, physiology, bacteriology, pathological anatomy, general pathology, and epizootic disease. Sixty-five papers—some of them of high scientific value—were published by the scientific staff of the Institute. In addition to this, no less than 25,000 bottles of diphtheria serum, 800 bottles of anti-streptococcus serum, and 300 bottles of anti-staphylococcus serum were sent out from the Institute during 1897—making a total of 138,000 bottles of anti-diphtheria serum and 15,000 bottles of malleine and tuberculine that were distributed within the last three years. Of persons bitten by rabid animals, 277 were under treatment, the percentage of deaths having been only 0.7. The serum treatment of the bubonic plague, the prophylactic measures against it, and the preparation of anti-plague serum were the subject of special work during the year, and its results were summed up in a paper which was read at the annual meeting by Prof. A. A. Vladimiroff.—*Nature*, Jan. 6, 1898.

Signora Zefthe Ahaira—A Man-Woman.

On October 18, Prof. Dr. Haberdä, the Instructor of Medical Jurisprudence at the Vienna University, brought into his clinic one who appeared to be a small man with a heavy beard and moustache, and the students were greatly surprised to learn that this person was really a woman, although her strongly marked countenance, with its beard, her manner and bearing, and even her voice, were most masculine. Signora Zefthe Ahaira is thirty-three years old born in Tunis of Italian parents. She is the sixth in a family of fifteen children and the only one that developed any abnormality. She did remain long in the convent in which she was to have been educated. At the age of fifteen she married and gave birth to a normal child, which, however, did not live long. As she and her husband were not happy together, they were soon divorced. Before her marriage, and while she lived with her husband, she kept her beard shaved, so that her appearance would not attract attention; but as the constant shaving became burdensome, she decided to let it grow and to adopt men's clothing, which she has worn uninterruptedly for a number of years, with the permission of the Italian authorities. She has conducted herself so like a man that no one suspected her of belonging to the "weaker sex," the impression thus conveyed being intensified by the manly tones of her voice. Prof. Haberdä considers her a remarkable specimen of hermaphroditic formation. She is going to make a tour of Europe and America to give specialists a chance to study her.—*Illustrirte Zeitung*.—*Scientific American Supplement*, Dec. 11, 1897.

Dr. Jacobus' Invitation.

The new President of the Old School Allopathic Medical Society of the County of New York in his opening address said—"Let us hold out the olive branch to those physicians who left us fifty years owing to the quarrels over the dogmas and took upon themselves the name of certain sectarian practitioners. If they will but drop the sectarian title for that of physician pure and simple and let the "old" and "new" school questions die out, I am sure that we will welcome them with open arms, as we have received a great many of their practitioners during the past few years who have declared their abnegation of sectarian principles and practice." We do not question the sincerity of Dr. Jacobus in giving expression to the invitation just quoted, but it is impossible not to have grave doubts as to the quality of his judgment. Does the good doctor understand the force of English? Is he aware that this extremely kind and cordial invitation to return to the fold involves, distinctly, "abnegation of sectarian principles and practice?" And has he really any serious idea that the great homœopathic school is going to "abnegate" its principle? We fear that the new President has not that knowledge of homœopathy which results from careful investigation or he would not have given utterance to an invitation which is a contradiction in terms. And we must correct his statement that "We have received a great many of their practitioners during the past few years." If he will count those homœopaths who have "abnegated" their principles and joined his society after such purification he will find a beggarly baker's dozen. Dr. Jacobus' invitation will not be accepted. Invitations to "abnegation" are neither courteous nor wise.—*North American Journal of Homœopathy*, Dec. 1897.

How Worry Affects the Brain.

Modern sciences, says Pharmaceutical Products, has brought to light nothing more curiously interesting than the fact that worry will kill. More remarkable still, it has been able to determine, from recent discoveries, just how worry does kill. It is believed by many scientists who followed most carefully the growth of the science of brain diseases that scores of the deaths set down to other causes are due to worry, and that alone. The theory is a simple one—so simple that any one can readily understand it. Briefly put, it amounts to this: Worry injures beyond repair certain cells of the brain: and the brain being the nutritive centre of the body, the other organs become gradually injured, and when some disease of these organs, or a combination of them, arises, death finally ensues. Thus does worry kill. Insidiously, like many other diseases, it creeps upon the brain in the form of a single, constant, never lost idea; and, as the dropping of water over a period of years will wear a groove in a stone, so does worry gradually, imperceptibly, but no less surely, destroy the brain cells that lead all the rest—that are, so to speak, the commanding officers of mental power, health and motion.

Worry, to make the theory still stronger, is an irritant at certain points, which produces little harm if it comes at intervals or irregu-

larly. Occasional worrying of the system the brain can cope with, but the iteration and reiteration of one idea of a disquieting sort the cells of the brain are not proof against. It is as if the skull were laid bare and the surface of the brain struck lightly with a hammer every few seconds, with mechanical precision, with never a sign of a let-up or the failure of a stroke. Just in this way does the annoying idea, the maddening thought that will not be done away with, strike or fall upon certain nerve cells, never ceasing, and week by week diminishing the vitality of these delicate organisms, so minute that they can only be seen under the microscope.—*Scientific American Supplement*, Dec. 18, 1897.

Value of Antiseptic Soap.

Curzio (*La Settimana Medica*, Nov. 30, 1897) has made an experimental study to ascertain the value of the so-called antiseptic soaps as to their aseptic and antiseptic properties.

He dissolved in sterilized distilled water the superficial and the inner parts of the soaps separately, and inoculated them into nutritive media (agar-gelatin). Besides he treated the pure cultures of *Staphylococcus pyogenes aureus* with solutions of the said soaps, with the view of studying the change in the vitality of the micro-organism.

He chose the *pyogenes aureus* because it is one of the most common and most resistant micro-organisms, and because of the ease with which the morphology may be studied.

He concludes as follows:

1. Sublimated (1 per cent.) soft soap is not aseptic and has not any antiseptic value, even if the experiment lasts for twenty-four hours.

2. Sublimated (1 per cent.) hard soap has very little antiseptic value, as it necessitates a continuous action of twenty-four hours to prevent the development of the *pyogenes aureus*.

3. Carbolic acid (10 per cent.) soap shows less aseptic properties and no antiseptic action at all.

4. Salicylic acid (3 per cent.) and boric acid (5 per cent.) soaps are aseptic in the true sense of the word. As to their antiseptic value, both have great power (the boric acid soap being less so), and they prevent the development of the micro-organisms after a few minutes.

Carbolic and bichloride of mercury lose a great amount of their antiseptic power in contact with the compounds of the soaps, so in practice salicylic and boracic soaps are better. But, if not for surgical purposes, i. e., in dermatology, especially when they are used for a long time, all of them may be employed with benefit.—*American Medico-Surgical Bulletin*, Dec. 25, 1897.

The Limits of Human Speed and Endurance.

The many forms of use and abuse to which the bicycle has been put have served to demonstrate that man is capable of feats of speed

and endurance the mere suggestion of which would have been deemed absurd and impossible a generation ago. While it has long been known that the human frame was capable of exertion far beyond the powers of the brute creation. It was reserved for the bicycle to show just what the measure of its endurance was. While we consider that six day races, such as have lately been concluded in New York, are to be condemned on obvious grounds of humanity and common sense, it is undeniable that they possess an interest as showing the amazing feats of strength and endurance of which a well trained athlete is capable.

The past year has been fruitful in record-breaking performances on the bicycle, and the array of records is full of startling figures. The distinction most coveted by the racing wheelman is that of having ridden the mile in fastest time. This has been done first in England and a month or two later in America in 1 minute 35 seconds, which is equal to speed of over 38 miles an hour. The rider who first rode a mile in this time has also covered a distance of 32½ miles in one hour—an even more remarkable performance.

This, however, was eclipsed by the feat of another speedy rider who wheeled off over 616 miles in one day at an average speed of 25½ miles an hour. A study of the details of this ride reveals the remarkable fact that the rider was as strong at the finish as at the start, the average speed for the twenty-fourth hour being as high as for the first hour, and the 610th mile being covered in 1 minute 56 seconds, or at a speed of more than 30 miles an hour.

The latest and in respect of mere endurance, the most difficult feat was the ride of 1,983 miles in six days made in this city. The average speed from Monday morning to Saturday afternoon, when the rider practically left the track for good, was 14.7 miles per hour, and the average actual speed, exclusive of rests, was 15.8 miles per hour. The rider was off the track only 9¼ hours, 4½ hours of which were given to sleep. From a medical point of view the remarkable fact was that his pulse and temperature were about normal after this tremendous exertion, and that he showed no discernible physical injury as the result of it. It is noteworthy that the rider's diet consisted almost entirely of boiled rice and milk and that no stimulants of any kind were taken.

In the presence of such performances as has been outlined above, the stories of ancient prowess become more credible, and it is certain at least that our race shows no signs of physical degeneration in the present day.—*Scientific American*, Dec. 25, 1897.

Industrial Lead Poisoning.

The *British Medical Journal*, (Dec. 25, 1897) draws attention to four cases of death from lead poisoning which occurred in England during the last few weeks of the past year, and complains very justly that "stringent as are the regulations of the Home Office" on this subject, "they do not seem to be drastic enough," and that "regulations are only effective when loyally accepted and rigidly carried out both by

employer and employed." He cites the recent death of a young girl engaged at an enamel works in Wolverhampton, who declined to wear a respirator as an illustration of the appropriateness of his remark. It transpired at the coroner's inquest that the enamel contained from 15 to 20 per cent. of red lead. The firm had indeed provided respirators and for failing to wear them three girls had been fined sometime ago; but as the manager himself paid the fine to save the girls from being imprisoned, (for they were too poor to pay the fine), the penalty imposed failed to produce the desired effect. Of the four deaths noticed, the first was undoubtedly due to plumbism, as, according to the report of the *Birmingham Gazette*, the county analyst found one-third grain of lead in 30 ounces of the poor man's liver, one-fourth grain in kidneys and spleen, and about an equal quantity in 40 ounces of brain. It further appears from the report of the Superintending Inspector for the Birmingham Division that there were 631 cases of lead poisoning in the Midlands during 1896, and that more than one-half of these were from earthen-ware and china factories of the North Staffordshire potteries. The second death from lead poisoning in the potteries is that a girl of 18 years, and the third that of a man aged 29, both being dippers. The man whose death occurred in a convulsion, had frequently suffered from colic. "In both these workers there had been premonitory symptoms. Both had been warned and medically advised to give up the employment, but they returned to their work, and, as so frequently happens on renewed exposure, fresh symptoms of lead poisoning quickly developed, and the fatal issue came even earlier than expected." The fourth death from acute plumbism is that of a young healthy coal miner, aged 24 years, employed at Birkenshaw. In this case death occurred after only two weeks' illness. It is attributed to the man having used ammonite instead of gunpowder to "blow" a drift in the coal pit. "The explosive was contained in lead cases, and as the miner had to handle these boxes several times a day, and was not in the habit of washing his hands before eating his food, the poison probably gained entrance by this channel, for medical evidence showed that death was due to plumbism." Our contemporary very justly concludes that the large number of deaths from lead poisoning is a subject "worthy of the attention of a committee of experts, whose help the Home Secretary should seek to secure, and thus strive to place British industries on a healthier footing."

Natrum Salicylicum in Prostration after Influenza.

The following note on the use of *Natrum Salicylicum* in prostration after Influenza has appeared in *Homœopathic World* for January last from the pen of its editor:

I have found *Natrum Salicylicum*, in potencies from the 3rd to the 30th, one of the best remedies for the prostrating after-effects of influenza. I was led to it in the first instance by the symptoms of vertigo with noise in the head. These were removed, and the patient was so much relieved of attendant weakness and depression that

she spontaneously named the medicine "her tonic." After this I gave it independently of the concurrent head-symptoms. In the *British Medical Journal* November 30th I found my homœopathic justification as under:—

"DEPRESSING EFFECT OF 'SODIUM SALICYLATE.'"

"The profound prostration which followed the exhibition of even small doses of *Sodium Salicylate* in the following case appears to me to render it of unusual interest.

"An old lady lately under my care suffering from symptoms traceable to the uric acid diathesis had intense inflammation and nocturnal pain in the tissues surrounding the first joint of the great toe and in the heel, with general œdema of the right foot. These symptoms rapidly subsided under treatment with *Colchicum* and *allies*. Subsequently vague shifting pains of a rheumatic nature developed, and I gave her 10-grain doses of *Sodium Salicylate* every four hours. This was followed after the third dose by symptoms of the most alarming prostration, mental and bodily. The pulse became weak and compressible, and fell to the remarkably small number of thirty-five beats a minute. Her temperature also became sub-normal. On stopping the *Salicylate* treatment the symptoms rapidly disappeared, and the pulse became eighty per minute. These symptoms could not be attributed to the action of the *Colchicum*, as I kept her on it for several weeks with complete relief to all the symptoms.

W. RICHARDSON RICE, M.D.

Fæces Bovis Novum (Fresh Cow-dung) as a Surgical Dressing.

The following interesting contribution by Dr. Ralph St. J. Perry appeared in the *Minneapolis Homœopathic Magazine* for Dec. 1897. That fresh cow-dung is used as an antiseptic plastering for mud floors and walls, in this country, especially in villages, is well known to our Hindu readers.

"There is one remedy which, as far as I know has never made been the subject of a systematic study, and yet I believe it to be one in common use amongst the laity of the less educated classes.

"*Fæcis Bovis Novum*—fresh cow manure is the remedy; and I would like to hear from any of the septic or aseptic brothers who have had experience in its use or a chance to observe the results of its use in the hands of others. Years ago, in my days of innocence and youth, there came within the scope of my miscellaneous friendship, an occasional boy who sported a felonous hand wrapped in a poultice of cow dung; during the time spent in college my ears were greeted by the story told annually by the professor of *materia medica*, of the old granny nurses who used manure poultices; and during the decade and a half that my efforts have been directed towards the relief of suffering humanity I have run up against this surgical incongruity on several occasions. Two cases have recently come under my personal observation in which this remedy was used, 'with the happiest results.'

"A finger mashed in machinery was taken off at the second joint, just as I have taken off dozens of them, when railroad and factory surgeon in a large city, but for some reason or other this one refused to heal properly; pus formed, and all the antiseptics failed to secure a healthy granulating surface. After working with the case for a month my patient ceased his daily visits, and I saw nothing of him for two weeks. Met him on the road one day while out visiting country patients; finger all healed up; was about to congratulate myself upon the efficiency of my last dressing when he laughingly informed me that he had put a cow manure poultice on the finger and healed it up in less than a week. I was so disgusted that I repeated the name of the remedy in its more emphatic and briefer form and drove on. This past week came a duplication of the experience; this time a palmar abscess in which the poultices in common use failed to affect a drainage after it had been opened. The boy's father applied the bovine product and magical results were secured in twelve hours.

"Now from what I have seen of this remedy I am almost tempted to recommend it as a surgical dressing because of its anodyne, antiphlogistic, discutient, emollient and resolvent properties—even further, and add its antiseptic action to the list. It seems to be used with impunity and success by the ignoramuses whom the law exempts from malpractice suits, though no one can tell what it would do in the hands of an educated licensed practitioner. True, our professional dignity and social ethics would preclude its use in many cases, but under another name it would smell as sweet and possibly do its work—as well. No self-respecting surgeon would advise a patient to apply mud to inflamed hand, but he can with the utmost serenity apply an 'earth dressing' or write a prescription for 'excelsior dressing' or 'antiseptic clay'. Patients to-day are being dosed with dried saliva, gastric juice of hogs and chickens, ox gall, pancreatic juice, desiccated brain, thyroid, ovaries and testicles, sterilized horse blood, and dried 'matter' from cow pox pustules. A few years ago the German government chemists found that a popular dentifrice with 'a peculiar saline flavor' was nothing but urine with a little thymol and menthol added to prevent fermentation. Some people will endure anything without rebelling. How about *facis bovis novum*?"

The Indian Hookah: A Real Sanitary Smoke.

The question is often asked by patients, and as often answered evasively by consultants, which is the best smoke? To smokers in general it is of supreme importance to possess this knowledge. For a perfect smoke three elements are necessary: the absence of (a) heat, (b) products of combustion of tobacco, acrid matters and carbonaceous compounds, (c) nicotine. A variety of pipes have been invented to obviate the latter two, but heat has always defied pipes. Cigars, cigarettes, and pipes, so long as they are smoked in this world, 'will always pro-

duce it. In a *hookah* we have an ideal smoke, and though prejudice may retard its popular use for a time, it will hold its own against all competitors. The time is not far distant when all Europeans in India smoked their *hookah* without being ashamed of it. I remember some old military officers only a few years back indulging in their cool *hookah* and inviting their friends, just as the better classes of Hindus and Mohammedans do now, to sit down and have a pull at the *hookah*. An old officer, now over ninety-eight years, tells me that in the early days of JOHN COMPANY every officer had his 'abdar' who looked after the *hookah*, and after dinner was over at mess produced the graceful and sometimes bejewelled *hookah* to adorn the table. It is fashionable at present to depreciate every thing Indian, and yet when we examine minutely the details of Indian custom and civilization, all are as a rule lost in admiration of the wonderful forethought, utilitarianism, and sanitary wisdom of those ancient people of a bygone age who were the code manufacturers and lawgivers of this land.

Revenons à nos moutons.—The Turkish *narghelia* is an elegant modification of the *hookah*, and I strongly recommend every smoker to invest in one, till such time as he can reconcile himself to a *hookah* with a long elastic, and coiled-up stem. When he reaches this stage he will bless the *hookah*. He will enjoy the coolest and least harmful of smokes, and he will smoke less on the whole. The cigarette for various reasons is the most injurious and the most indulged in. An ordinary cigarette smoker burns up at least 20 a day, with the result that his throat is as raw as a beefsteak in the morning, and drier than a bone. If he is given to lifting his little finger, after every two or three cigarettes, there is a strong temptation to have a peg. He might drink water, but as modern literature warns him that there are thousands of bacteria in it, he generally goes in for a whisky and soda. I have come across numerous cases of pharyngitis, and a few of laryngitis in inveterate cigarette smokers. Besides, in some cigarettes there is a quantity of opium also. *After a few puffs of these, the smoker either feels giddy, or sickish, and he attributes the effect to nicotine. It is nothing of the sort. It is pure and simple opium-smoking with its baneful results, emaciation, palpitation, dyspepsia, &c. The most scientific as well as the most ancient smoke is the *hookah*, and I strongly urge every one who has the courage to fight fashion and prejudice, to invest in one at once.—Dr. Morton in *Indian Medical Record*, Jan. 1, 1898.

The Plague in Lower Damaun.

The following are the chief points of interest in the joint report of Messrs Haffkine and Surgeon-Major Lyons on the epidemic of plague in Lower Damaun:

The disease was imported in the early part of February, 1897, into Lower Damaun, which is in Portuguese territory, by arrivals from Bulsar in the Bombay Presidency—a neighbouring town affected with plague—and by sailors from Karachi. The first local cases occurred at the end of February among the Damaun fishermen. As

the disease began to gain ground in March^e the people fled to the extent of 2,000. Then Upper Damaun, which is separated from Lower Damaun by a river, was cut off from communication with the infected area by the Portuguese governor placing a sanitary cordon along the river. A week later the Bombay Government followed suit, and closed British territory to the inhabitants of Damaun. The worst period of the epidemic was in April, when the Damaun frontiers were closed, and in the middle of April the deaths reached 80 a day, which is severe for a population of less than 8,000. During the epidemic 2,189 deaths were registered from plague, but it is estimated that at least 200 or 300 more were unaccounted for. It is estimated that close on a third of the inhabitants succumbed to the disease.

It is in an epidemic such as this, which is stated to be one of the most virulent observed in India, that the inoculations were tried on a large scale. The results are estimated on the 2,189 authenticated deaths, thus avoiding any possibility of exaggerating the power of the prophylactic. Altogether, 2,297 persons were at different times inoculated. Between March 26th and the end of May 6,033 uninoculated had 1,482 deaths, that is, 24.6 per cent., while 2,297 inoculated had 36 deaths, or 1.6 per cent. With the same death-rate as the uninoculated the inoculated should have had 332 deaths instead of 36, which represents a difference in mortality of 89.2 per cent. To meet objectors Drs. Haffkine and Lyons point out that with such results and so high a proportion of the inoculated to the rest of the inhabitants (2,297 to 6,033) it is impossible that the inoculated represented the upper or any particular class of the population, and to which their reduced death-rate could be ascribed. A notable example is given in the Parsee community, which consisted of 306 persons, of whom 277 were inoculated, leaving only 29 uninoculated. In the 29 uninoculated there were 4 deaths from plague, or a mortality of 13.8 per cent., while among the inoculated there were 8 attacks with only 1 death, which was that of a woman ill of plague before inoculation. Counting this death the mortality in the inoculated was 0.36 per cent., or 38.3 times lower than in the uninoculated. In a careful analysis of the results of the inoculation it is shown that the efficacy of the prophylactic depends on the virulency of the microbe from which the lymph is prepared, and on the dose and its powers of producing a well-marked febrile reaction, and that it is more effective in preventing deaths than attacks.—*Brit. Med. Jour.*, Jan. 8, 1898.

CLINICAL RECORD.

Indian.

CASES BY DR. BEPÍN BEHARI MAITRA, M.B.

Case 1. Purperal Remittent Fever.

Nov. 15th 1889. Hindu, female, aged 26 years. Had her first delivery about 9 days ago. During pregnancy had œdema of the limbs and face, but was delivered safely; for a week she was in a damp room, but has now been removed to a better one. Since the last three days has been suffering from remittent fever. The fever aggravates at uncertain hours; sometimes in the morning, sometimes at noon, at others during evening. Chill slight; during heat little or no thirst; severe throbbing and stitching headache; occasional nausea and sometimes vomiting of bile; during remission burning of the skin. Has got hacking, titillating and dry cough, especially troublesome at night. Bowels moved only once since confinement; stool hard; urine very high colored; œdema of the face, especially of the upper eyelids; œdema of the wrists; œdema of the eyelids, seen more in the morning than at any other time.

Has been getting *Arsenic* and *Belladonna* alternately, prescribed by an amateur practitioner. *Kali carb.* 200 every 3 hours.

16th. Had snatches of sleep now and then at night; lochial discharge very fetid; cough less; œdema of the wrists gone, but that of the face and eyelids remains the same; urine, during the last 12 hours, was passed only once, but during the previous 24 hours, the patient had passed urine only once, headache less; fever continues; pulse weak; appetite improved. Continue med.

17th. Fever continued whole day; was tolerably well till 10 p.m., since when the headache began to increase and became agonizing towards morning; at 1 a.m., she vomited bile, after which the headache increased; is much exhausted; pulse stronger than yesterday morning; passed urine only once; œdema of the eyelids less. Cont.

18th. No stool; made water only once in 24 hours; but that is less highly colored than before; cough less, appetite improved; slept pretty well last night; after midnight at about 2 a.m. had an attack of nausea for very short time; headache was relieved yesterday morning by cold water application; headache did not increase at night as on the previous date; there is however a little headache continuing even now; no milk at the breast; œdema of the eyelids nearly gone; pulse stronger than before; fever continues. Cont. med. every 4 hours.

19th. Lochial discharge still fetid; headache gone; appetite im-

proved; passed urine only once in 24 hours; œdema gone; fever continues still; slight thirst. *Puls* 6, every 4 hours.

20th. Improving; fever less; no headache; no œdema; no stool. Continue *Puls*.

21st. Reported to have less fever. Continue medicine.

22nd. Very slight fever; no especial complaints, except constipation; bowels being moved only once since delivery. *Nux vom.* 30 one dose.

The patient was subsequently cured without any further medicine.

This is a good example of the use of *Kali carb.* The obstinate constipation; dry hacking cough; œdema of the face and eyelids; diminution of the quantity of urine—all pointed to *Kali carb.* The most prominent analogues were *Apis* and *Arsenic.* The great burning and restlessness of *Arsenic* were wanting; the burning of the body was not so prominent as to indicate *Arsenic* especially. The presence of thirst contra-indicated *Apis*.

This case came under my care when I was yet a novice in homœopathy. *Kali carb.* 200 should not have been repeated so often as was done; a single dose, or perhaps one or two more, would probably have been quite sufficient to bring round the patient. It is to be remarked that *Kali Carb.*, which removed the œdema and cough, failed to remove the constipation.

Case 2. Metritis after Delivery.

4th Oct. 1889. Jagaddhatree, Hindu, female, aged 20 years, delivered of her first child seven days ago. The labor was a very tedious one, and she was very much prostrated; on the fourth day after delivery she bathed and got a very strong attack of fever. I saw her at 5 p.m. T. 105°; great prostration; pulse weak; does not like to speak, remains apathetic; tongue coated yellow; constipation for the last three days; uterus reaching up to the umbilicus; the whole of the abdomen very tender to touch; lochial discharge very scanty. *Bryonia* 6, every 3 hours.

5th. Fever left her at night; pain in the abdomen much less; uterus reduced in size. Continue *Bryo*.

6th. Slight fever came on last evening, and left her at night; much better; lochial discharge increased. *Bryonia* 6, thrice a day.

10th. Uterus gone down nearly to the symphysis pubis and is only very slightly painful; otherwise she may be said to be fully cured.

In this case *Bryonia* alone completed the cure.

•A Case of *Lymphangitis*.

By DR. HEM CHANDRA RAY CHAUDHURI, L.M.S.

On the 12th of January last, I was called to attend a male child aged three months, at Serpentine Lane. I was told that he was being treated by a homœopathic practitioner who had diagnosed it to be a case of rheumatism on account of the swelling of the left shoulder joint.

On examination, I found enlargement of several glands at that part. •The child was suffering from fever since six or seven days, had slight tympanites, and was rather costive. I wanted to know the name of the medicine which was administered to him, but the father of the boy produced a phial containing some globules without any label on it. He was surprised when I told him that it is impossible to know a homœopathic medicine unless the name is on the label attached to the phial. Then he raised the question whether a patient had not the right to know the name of the medicine when he had paid for it. It was a delicate question of professional propriety which I did not like to answer. As there was high fever, great thirst, much restlessness, and redness of the affected part, I gave *Bell.* 30 globules, to be administered thrice daily.

On the 14th it was reported that the child was better and that the fever had left him. *Bell.* 30 globules twice daily. Two days after I was informed that the child had fever again. As the fever was reported to be very slight, I gave some unmedicated globules. On the 18th I had the satisfaction to know that the child was doing well and that the enlarged glands have mostly disappeared. No medicine was given after this report, and I met the father some days afterwards and was told that the baby had no other complaint except a slight costiveness.

Foreign.

Two Stannum Cases.

By DR. MIDGLEY CASH, Torquay.

I.—Mrs. A., æt. 48, wife of a clergyman, ordered abroad by Dr. D..... P....., who told her she was threatened with *Tuberculosis*, and that the right lung was affected, tubercle bacilli having been found in the sputum. Severe night cough, spitting up much blood-streaked mucus, constant sweating, and considerable loss of weight had appeared lately.

Being an old patient of mine, her husband wrote to me in much

alarm about his wife, and asking for remedies. I sent her stannum 3x; 3 grains to be taken every three hours during the day and 3 drops of hyoscyamus at bedtime, to be repeated every two hours through the night if awake and coughing.

In ten days he wrote that the medicines had certainly done his wife good, and it was remarkable to him "how much more good the homœopathic treatment does than the best allopathic."

The cough entirely ceased, she slept well, gained weight, and in six or eight months became comparatively strong and healthy.

II.—Mrs. B., æt. 40. A tall emaciated worn-out woman, the wife of a labourer. Has been in ill health and anæmic for some years. Got a chill a week before she was seen and developed a pneumonic patch at the apex of the left lung. She was expectorating copiously a frothy blood-streaked mucus, the temperature being about a degree above normal.

Ant. tart., *bryon.*, *phosph.*, *silic.* and *china* were given in the 5 months that followed, with perhaps some amelioration of symptoms. At the end of this time I found her general condition lower. Examination revealed a cavity in the left lung, with tinkling and amphoric breathing. Expectoration profuse, stringy and foetid. Terebine inhalations improved the last-named symptom. A course of stannum was now prescribed—2 or 3 grains of the 3x trituration being given three times a day. This was persevered in for five weeks. At the end of this time examination of the chest showed improvement. The cavity in the lung seemed drying up—only a slight tinkle heard, and amphoric resonance fainter. The expectoration and cough were much reduced. She now feels stronger, and is able to do some of her household work. In short the disease which was making rapid progress was arrested for the time. The patient lived for over two years afterwards, the stannum a second time during that period averting a further attack, which threatened to be speedily fatal.—*Monthly Homœopathic Review*, Jan. 1898.

Gleanings from Contemporary Literature.**THE USE AND ABUSE OF ANTISEPTIC AND
GERMICIDE REMEDIES.**

By G. VIVIAN POORE, M.D., F.R.C.P.

Physician to University College Hospital, etc.

Were I to write a book on therapeutics I should certainly devote the first chapter to a full discussion of the "*Post Hoc* Fallacy," a fallacy concerning which most medical treatises are strangely silent.

It is precisely this *post hoc* fallacy which is the stumbling block of therapeutics, and it is to me astounding to find how ignorant well-educated men seem to be of the snares which it lays for them.

We must all admit that there are fashions in therapeutics. Drugs and chemicals of every kind and description come into vogue, have their day, and disappear; and this, be it remembered, occurs in the profession as well as outside it.

There are many cases in which the *post hoc* fallacy forms an efficient barrier to any logical conclusion.

Our certainty that effects are due to definite causes seems to depend—

1. On the extent to which the effect produced is appreciable by the observer.
2. The rapidity with which the effect follows the cause.
3. The frequency with which definite effects are found linked with certain causes.

Just in proportion as the objectivity is great, the rapidity of sequence great, and the frequency of occurrence great, so is the liability to error small.

Deep sleep, violent purging or vomiting or sweating, dilated or contracted pupils, and muscular spasm, are, each of them, objective phenomena which we can all appreciate; and when such phenomena occur *shortly* after the administration of, let us say, a dose of opium, ipecacuanha, pilocarpin, belladonna or strychnine, and when in our daily practice we find the same phenomena occurring in the great majority of those to whom the drugs named have been administered, we can have no hesitation in concluding that the drug and the subsequent objective phenomena stand to each other as cause and effect.

When the phenomena consist of pathological conditions suddenly induced, our difficulties in arriving at a conclusion are much less than when the effect of the administration of the drug consists in the cessation of a morbid phenomenon.

We all of us know that the symptoms of disease disappear with the removal of the cause, and that in a large number of cases unaided Nature is competent to destroy or expel the cause, with the result that the morbid phenomena subside. A large number of headaches, "neuralgias," and pyrexia tend to get well of themselves, and the majority of attacks of

diarrhoea and vomiting are simply working their own cure. It is exceedingly difficult in such cases, even if it be at all possible, to connect the cessation of the phenomena with the administration of the drug.

Some years ago the medical profession was soundly rated in the *Times* by a worthy peer because of its attitude towards those gentlemen who call themselves homœopathists. We were told that we ought to submit homœopathic doctrines to experimental tests, but our censorious critic did not tell us how such experiments were to be conducted. I remember that I was examining, at the time, at the University of London, and that on one occasion, while presiding at a written examination, I sat beside a very distinguished professor of logic and moral philosophy, whose examinees were in the same room as my own. We fell to discussing the question of how to subject therapeutic assertions to the experimental test.

I put this question to him : Suppose that I am called to a patient, who is vomiting, and that I administer ipecacuanha to him in doses so small as to be undetectable by any known test, chemical, physical or physiological ; and suppose that while I am administering this drug the vomiting stops ; can you devise any means which would enable me to say with any approach to certainty that the cessation of the vomiting is or is not the result of the administration of the drug ? Answer, "No."

This represents the extreme case in which the *post hoc* fallacy effectually bars the way to any logical conclusion.*

Faith has been defined as belief without evidence, and there can be little doubt that faith healing is far more common than is generally supposed.

Most of us are far more readily hypnotised than we care to admit. The great hypnotisers of the present day are advertisements, and we all know that if a thing be sufficiently puffed, and sufficiently backed by dogmatic assertion, be it never so bad, that thing will enjoy a sale. Further, a large

* And this, we are constrained to say, represents one of the oft-repeated but oft-refuted fallacies of the old school which so completely hypnotize its members as to be absolutely insensible to the broad day light facts which point to the truth of homœopathy. The Professor of logic and moral philosophy forsook both his logic and his philosophy when he returned an unqualified "No" to the apparently simple but really artful and complicated question that was put to him. What he should have said, if he had any regard for the relation of cause and effect, is—"No, from this single instance. But the probability of the drug being the cause of the cessation of vomiting would gain ground and approach to certainty in proportion such instances were multiplied, however undetectable the drug might be in the form in which it is administered." We have said the question put to the professor was an artful one. It was certainly not a straightforward one. Dr. Poore could not have been ignorant that the cures of cases of vomiting by Ipecacuanha were not solitary ones but were innumerable. And he must have known from his Ringer that it is not always undetectable but quite appreciable doses though much smaller than he is accustomed to, that have been used and found curative in vomiting. He should have mentioned these facts to the professor, and not put him off his guard by citing a solitary hypothetical instance. And then, without the aid of a professor of logic, he would have reconsidered his notions of the delicacy of the tests he is acquainted with, and would have suspected that there might be other tests far more delicate. It is a pity that he should have thought it necessary to introduce such a silly and uncalled for argument against homœopathy in an otherwise excellent article.—*Ed., Cal. J. Med.*

number of those who become purchasers are sure to trumpet the article, which thus enjoys a period of fashion.

The really successful quack is very often a person who, quite unconsciously, hypnotises his patient by his manner and his dogmatic utterances. He tells his patients they are better or well, and their aches and pains subside in obedience to the command.

I once was consulted by a patient who was successfully hypnotised by a galvanic battery; and as, I believe, she is now dead I may, perhaps, tell the tale without fear of detection.

The patient, a lady, was a person of wealth and position, and I was asked to go to an hotel in London in order that I might advise her as to the use of electricity for headaches.

She told me that she had been a "martyr to headaches," and that the only remedy which she had found of any use at all was electricity. She had just returned from a long Continental tour, during which she had been quite free from headache, thanks to the electric battery, which she had carried with her everywhere, and to which she always had recourse on the least threatening of her old complaint. Her friends, however, had told her that electricity was a most dangerous remedy, and that she ought not to continue its use without proper medical advice. Acting on this opinion, she had sent for me.

I asked to see the battery, which was accordingly brought by the maid and was nearly as much as the maid could carry. It was a beautiful specimen of really first-class work, and had cost £28. A continuous-current battery of 50 "Smees" elements with collecting board, reversers, galvanometer, etc., all glistening and most impressive. It was in singularly good order and looked nearly as new as it did when it left the shop, which was very extraordinary, because the liquid in which the "Smees" cells should be immersed is dilute sulphuric acid, and it seemed incredible that this should not have been spilled during her long railway journeys.

In order to fix the sponges and examine the connections, etc., it was necessary to place the lid at an angle of 90° ; and in order to immerse the cells and throw the battery into action, it was necessary to move the lid through a second range of 90° .

On examining this battery, and as the result of inquiries, I arrived at the conclusions:—

1. That the battery had never been charged with the necessary dilute sulphuric acid.
2. That if it had been charged, the cells could never have been immersed because the lid had never been thrown completely back.
3. That the imaginary current had been applied by means of perfectly dry sponges to a perfectly dry skin.

It was clear that no electricity had ever been used in this case; and whether we regard the headaches as imaginary, or whether we regard them as having been relieved by the hypnotising effect of a formidable and glistening apparatus, is immaterial.

But what was I to say in reply to the question as to whether she might go on using her electricity to cure her headaches?

Here was a very nice problem in medical ethics. Was I to deprive the patient of the therapeutic results which were wrought by her imagination? On the other hand, was I to lay myself open to a charge of quackery and humbug by recommending the form of "electricity" she was using to cure her headaches?

I am not sure, even after the lapse of twenty years, whether I did the right thing.

I said that the battery wanted recharging, and advised her to send it to the instrument-maker's for the purpose, as the fluid had apparently evaporated. Then I advised that she might continue to use her battery, but on no account to use more than *one cell*. A week later the maid called to say that the battery had been sent home and that "my lady had used *one cell* as I directed, but, oh dear; it pricked her forehead and gave her sparks in the eye," and I suppose she woke up to the whole circumstances of the case which I hope may have had a desirable curative effect, for I never saw the patient again.

The effect of various bodies in inhibiting or arresting the growth of microbes has been chiefly studied in relation to the bacillus anthracis, the first pathogenic organism the life history of which was fully made out. The great size of this organism makes it comparatively easy to study.

Koch found that 1 in 1,600,000 of perchloride of mercury would hinder the growth of bacillus anthracis; that 1 in 300,000 would arrest the growth; and that 1 in 20,000 would destroy the spore.

The body of greatest potency in inhibiting the growth, next to mercuric chloride, was oil of mustard. Koch found that 1 part of oil of mustard in 330,000 would hinder and 1 in 33,000 would arrest the growth of bacillus anthracis; and the next body on the list is allyl alcohol, of which 1 in 167,000 will arrest the growth. Lower on the list of bodies which hinder the growth of bacillus anthracis are oil of turpentine, thymol, peppermint which are all potent (1-80000th, 1-75000th, 1-33000th); while much lower on the list come iodine, hydrochloric acid, chlorine, salicylic, benzoic and carbonic acid, camphor and quinine.

Alcohol and common salt manifested very slight power of arresting the growth.

Richet's experiments are of interest to the physician. He sought to determine what quantity of an "antiseptic" was necessary in order to arrest the growth of bacteria in a litre of sea-water containing 10 per cent. of urine and .1 per cent. of peptone.

The interest of his experiment consists in this: that the quantity needed was very much greater than that which sufficed to kill fish.

Thus he found that .0029 grammes of mercury in a litre of water was sufficient to kill fish; but that .0055, or twenty times the quantity, was necessary to hinder the development of bacteria.

He found the same result, but in different degrees, with all the metals with which he experimented.

Among the antiseptic bodies which are most in use at the present time one must place the coal-tar derivatives, with carbolic acid at the head.

The world certainly moves in a circle, and it is very interesting, in connection with the present rage for coal-tar products, to bear in mind the fact that "tar water," thanks to the advocacy of Bishop Berkeley, was very much in vogue at the end of the last century.

This seems to me to be a matter of so much interest that a few words concerning Bishop Berkeley's views may well be given.

The Reverend George Berkeley, Bishop of Cloyne, published, in the year 1744, a treatise entitled "Siris, a chain of Philosophical Reflections and Enquiries Concerning the Virtues of Tar Water."

"It is indeed," says the biographer, "a chain which, like that of the poet, reaches from earth to heaven, conducting the reader by an almost imperceptible gradation from the phenomena of tar water, through the depths of the ancient philosophy, to the sublimest mystery of the Christian religion."

This treatise is in 368 numbered paragraphs, and is aptly described above. The modern reader of it will be struck no less by the profound and extensive erudition of the author than by his implicit faith in the panacea which the treatise so elaborately recommends.

The tar water was commonly made by pouring cold water upon tar and constantly replenishing the water so long as any of the taste and colour of tar remained. The Bishop recommends half a pint night and morning, on an empty stomach, and asserts, from his own experience, that it may be taken for great length of time without detriment. The Bishop vaunts his tar water as a remedy for small-pox, fevers, diseases of the lungs, fluxes of the bowels, gout, scurvy.

In an appendix entitled "Farther Thoughts on Tar Water," he says:—"This medicine of Tar Water worketh various ways, by urine, by perspiration as a sudorific, carminative, cardiac, astringent, detergent, restorative, alterative, and sometimes as a gentle purgative or emetic, according to the case or constitution of the patient, or to the quantity that is taken; and its operation should not be disturbed."

Berkeley has a great reputation as a metaphysician, and of the 368 paragraphs of "Siris," the majority appear to me to resemble spiders' webs, being constructed with marvellous ingenuity from the flimsiest of material derived mainly from the author's inner consciousness. I confess I am usually quite unable to understand what Bishop Berkeley means, or what, either in this or any other world, he is driving at. I am, however, quite ready, in all sincerity and humility, to admit that my failure to comprehend "Siris" may be found in my native thick-headedness. It certainly is remarkable, however, to observe how totally ignorant this very able, very learned, and most subtle-minded man appears to be of the *post hoc* fallacy. He gives tar water, the patient gets better, and he regards the two facts as cause and effect, without any hesitation whatsoever.

How largely the coal-tar products are used in modern medicine is well

shown by the treatment of enteric fever. In a recent article I find the following coal-tar products recommended :—

First as antipyretics : Antifebrin (acetanilidum, phenylacetamide), antipyrin (phenazone, phenyldimethyl-pyrazone), phenacetin (para-acet-phenetidin), malakin (salicyl-para-phenetidin), lactophenin (lactyl-phenetidin), kairin (oxychinoline-ethyl hydrochlorate), thallin (tetra-hydro-para-methyl oxychinoline).

The following bodies are recommended as antiseptics :—B-naphthol (naphthyl alcohol), salicylate of bismuth, magnesium, quinine, salol (salicylate of phenol), betol (salicylate of B-naphthol ether), naphthalin, benzoate of B-naphthol, phenol, creasote.

The above list only contains a very small proportion of the coal-tar derivatives. On referring to Martindale's "Extra Pharmacopœia" I find 56 preparations included in the section headed Carbolic Acid, 3 under Picric Acid, 36 under Salicylic Acid, 65 under "Coal-tar Derivatives," 13 under Creasote, 13 under Naphthol, 14 under Tar, 7 under Resorcin, 5 under Saccharin.

Thus there are no less than 212 preparations for which we are directly or indirectly indebted to the refuse material from gas works.

A very large number of these preparations are of undoubted value.

The enormous amount of work which has been done in relation to the coal-tar products has given a great spur to synthetic chemistry, with the result that the chemist seems able to produce at will bodies of definite chemical constitution. He has been greatly helped in this work by hypothesis, and he uses as formulæ, diagrams which illustrate the supposed structure of the atomic radicles and their derivatives. The pharmacologists studying these hypothetical diagrams have asked us to believe that there is some definite relation between the hypothetical chemical structure of a body and its pharmacological action. This is an attractive doctrine, because of its simplicity and wide applicability. But I confess that this doctrine appears to me to be far from proven and that in using it we are treading upon very infirm ground. Happily, the pharmacological action of a body is often capable of demonstration, and theory can be confirmed or corrected by direct experiment.

It is interesting to note how many of the bodies which we use for dietetic purposes, and which we call "condiments," are in reality antiseptics ; and there can be little doubt that many of them have the effect of checking fermentations of various kinds in the alimentary tract. All the vegetable bodies which contain "allyl" are clearly of that class, and it is curious to observe how widespread is the use of these allyl bodies—assafoetida, garlic, onions, leeks, chives, mustard and horseradish. The first five have a strong characteristic odour, and the onion is peculiarly pungent when applied to the nostrils. Mustard and horseradish have an extreme degree of pungency, but very little odour, and produce no unpleasant smell of the breath. Hence it is that in polite society mustard and horseradish retain their position, while the onion class are in slight disfavour. In Spain, and in

Southern Italy and France, I believe the universal employment of garlic is largely due to the fact that its consumption keeps intestinal parasites in abeyance, and doubtless the employment of assafœtida and hot condiments in tropical climates fulfils a similar useful purpose.

Our aromatic herbs, so largely used in cookery, are also antiseptic, and it is to be observed that they are used precisely with those articles of diet (such as duck or pork) which are slow of digestion and particularly liable to undergo fermentative changes in the stomach. It is also of interest to note that salads and oysters, which, when raw, are liable to contain the germs of disease, are universally eaten with vinegar, which is calculated to repress the growth of and kill the bacillus entericus.

The ease with which an antiseptic or germicide remedy can be successfully applied depends, of course, upon the accessibility of the part to the remedy. It is well to bear in mind the exceeding difficulty sometimes experienced in the cure of ringworm because of the comparative inaccessibility of the hair follicle to the remedy. In the same way the *post-mortem* wart, or verruca necrogenica, which is said to be due to an inoculation of tubercle, is apt to be very chronic, and not cured without considerable difficulty. I remember in my own case a wart of this kind remained for months, and only disappeared when I carried lint and mercurial ointment in my pocket and resolutely dressed the wart afresh every time I washed my hands. Then it disappeared in a few weeks. Lupus, again, is most difficult to cure, if indeed it be really curable.

It is well to bear this fact in mind—the difficulties of curing surface infections—when we lightly talk of giving antiseptic remedies for curing such as are hidden away and out of sight. Some of the foul conditions of the pharynx and naso-pharynx, whether connected with syphilis, necrosis, enteric fever, or hæmorrhage, yield with tolerable ease to the persistent application of iodoform, accompanied by douching with solution of boracic acid or quinine. The same may be said of foul discharges from the ear, or foul ulcers about the body, or on the legs. In connection with foul ulcers I am led to speak of a remedy which has been used time out of mind by the surgeon. I mean nitrate of silver, or lunar caustic. The great good which so often resulted from the use of nitrate of silver was probably due to its great antiseptic power. The same may be said of arsenical pastes, zinc pastes and lotions, and the use of blue stone or sulphate of copper.

In an interesting paper on Fermentation, written by Dr. Duclaux, the present Director of the Institut Pasteur, an account is given of Raulin's experiment on the growth of *aspergillus niger*, a fungus which readily grows on acid fruits.

"Raulin's liquid," in which the *aspergillus* flourishes to a maximum extent, is a solution containing 5 per cent. of sugar candy, with small additions of tartaric acid, ammonium nitrate, and other salts of potassium, magnesium, zinc, iron and ammonia.

Raulin found that very trifling alterations in the amount of the ingredients of this fluid had very great effects on the growth of the fungus, and he found that the vegetation stopped abruptly in presence of 1-1000000th

(sixteen hundred-thousandth) of nitrate of silver. In the same way 1-50000th of mercuric nitrate or 1-240th of copper sulphate stopped the growth.

The salts of silver appear to be especially inimical to *aspergillus*, as the growth would not even commence in a silver vase.

Antiseptics again have been invaluable to the physician in cases of paraplegia in which the bladder becomes foul. This is a condition which must be remedied if the patient is to continue to live; and there can be little doubt that the washing out of the bladder with solution of quinine or boracic acid or emulsion of iodoform (which is generally successful when the others fail) has added months or years to the life of many a chronic invalid.

In foul conditions of the stomach antiseptic treatment is generally successful because, like the bladder, the organ is tolerably accessible. I need hardly allude to the domestic antiseptics, such as dill water, "kummel," ginger, cajeput, or the familiar "peppermint drop," which has lately budged forth as a "menthol tabloid." For mixed fermentations and the cure of "the wind" these are generally successful.

When fermentative changes become chronic owing to the presence of the yeast fungus, the modern plan of washing out with weak Condy's fluid is undoubtedly very valuable.

In some of these cases I have found nitrate of silver of marked use, and it is doubtless very deadly to many of the fermentation fungi. I am inclined to think that the use of nitrate of silver in this connection is too little appreciated.

Need one allude to the use of mercurial purgatives in certain conditions of foul stomach giving rise to acute or chronic gastric catarrh? It is not so many years ago that mercury was dislodged from its pre-eminent position by the laboratory workers, who found out that we were wrong in considering it a "cholagogue," and for a time the man who gave a dose of calomel for well-known clinical conditions was regarded as a mediæval goth. Now, however, we have discovered that its great value as a purgative is due to its strong antiseptic power, and we have the satisfaction in having good scientific reasons for the belief which many of us hold that in cases of really foul stomach with furred tongue a dose of mercurial in some form relieves sooner than anything else.

We now pass from local diseases to general diseases which are dependent or supposed to be dependent upon animal or vegetable parasites.

There seems to be little doubt that in the various forms of malaria which are due to hæmatozoa, the great good obtained by the administration of quinine or arsenic is due to the germicide action of these bodies. The large amount of testimony both from patients and doctors as to the great value of these remedies would seem to exclude the *post hoc* fallacy.

The parasitical nature of syphilis is a matter of inference rather than demonstration, but there is little doubt as to the value of mercury and iodine, both powerful antiseptics in combating this disease.

Both of these bodies seem capable of counteracting the infection without damaging the cells of the body itself.

In tuberculosis antiseptics have been largely used, but the results have not been very encouraging. We have been able to give a certain degree of comfort by this or that remedy, but no results at all comparable to the results obtained by using mercurials in syphilis have been recorded. Locally in tubercular ulceration of the larynx I think I have seen some good from the use of nitrate of silver in solution or in spray, but only in cases (and those few in number) where the patient could command every luxury, inclusive of fresh air. I cannot say that I have ever seen any definite good result from antiseptic inhalations, and when we consider how very dilute such vapours must be, it is hardly reasonable to expect much result.

Cressote has been largely given and guaiacol carbonate, but clearly without tangible result in my hands.

It seems to me to be reasonable that in making a choice of a germicide remedy we should choose one which afforded certain evidence that it had reached the part one wished to affect.

Thus we may be sure, by the smell of the urine, that turpentine passes through the kidney. We may be equally sure by the colour of the urine that carbolic acid and some other allied bodies have passed through the kidney.

Alcoholic and ethereal drinks make themselves evident in the breath, and the same may be said of onions and garlic.

It was on this account that some years ago I first gave garlic (raw) to persons suffering from dilated bronchi with foul expectoration, and clearly with very good results. After the garlic was discontinued the foulness of the sputa was no longer observed.

I have also given garlic to young adults with phthisis, and can say that I have some "faith" in it.

Also I think I have seen it do good in children with a cadaveric odour of the skin such as is sometimes observed after measles and other acute specifics.

In giving such remedies I think one rule must be observed, viz., that they must be discontinued if they upset the stomach or become repellent to the patient.

Enteric fever is a disease for which antiseptic treatment has recently been much in vogue, and this has been owing to the fact that the lower end of the small intestine is the seat of ulceration and infiltrations where the bacilli typhosi most do congregate. But it must be remembered that the bacilli are elsewhere in the body, and that even if we are able to reach them on the free surface of the intestine, it does not seem very probable that we should be able to combat them in the spleen and elsewhere. It is all-important in the treatment of enteric fever to keep the mouth sweet by the use of glycerine of borax, washes of peppermint, etc., and if any pharyngeal ulcers should appear, these must be treated with iodoform.

But as to giving strong antiseptics by the mouth with a view to disinfecting the lower end of the ileum, that seems a proceeding in which success is less certain. It is well to bear in mind that, when such bodies as

mercuric chloride or arsenic are given in lethal doses, it is usual *post mortem* to find evidence of inflammatory mischief in the stomach and the duodenum, and also in the lower part of the large intestine. The intermediate portions of the alimentary tract escape, and it is probable that the upper part serves as a channel of absorption, while the lower part acts as a channel of elimination. This common fact will show that it is not easy to get any soluble metallic salt into contact with the small intestine. There is however, some evidence that the administration of antiseptics in some cases will sweeten the evacuations, and I see no reason why antiseptics, if they be harmless in themselves, do not depress and do not interfere with such appetite and digestive power as the patient may have, should not be administered. Personally, I have never seen enteric materially modified by their administration.—*Practitioner*, Jan. 1898.

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[No. 3.

HAHNEMANN'S TOMB IN PARIS; OR AN OPPOR-
TUNITY FOR ALL BELIEVERS IN HOMEO-
PATHY TO DO A SOLEMN DUTY.

There is a melancholy interest about this tomb of our Master. It is a fact that the greatest benefactor of mankind had not even a decent burial. In this, as in many other matters, connected with Hahnemann, his second wife had proved herself quite a mysterious being. Even the object of her visit to Hahnemann at Coethen is a matter of doubt and question. Ostensibly it was for herself that she sought Hahnemann's advice, but we are told by one of her apologists, that she "went to see Hahnemann not so much on account of her own health as that of her mother, who had been given up by the principal physicians of Paris." So that this is quite a new version of the story of her visit to Hahnemann. Whether she captivated Hahnemann, or Hahnemann captivated her; or whether, as Shakespeare would have said, "at the first sight they changed eyes, both being in either's powers," must remain a mystery. Each had motives for the union no doubt, but what those motives were, were known only to themselves. Love in its physical aspect was, we may safely

say, out of the question with Mademoiselle Melanié D'Hervilly. Was she moved out of gratitude for her recovery to agree to the proposal first advanced by the doctor? Or are we to believe with a lady who knew her that "she was charmed with his genius, his character, his manner, everything about him; and conceived an affection for him perhaps deeper and truer than the passion which we generally call love?"

Was Hahnemann actuated by the passion? The sacred fire, it is true, does not become extinct even in extreme old age. Was it still burning in the heart of Hahnemann, after he had the taste of the world for eighty years? Was he capable, at his advanced age, of being influenced by the personal charms of a woman, who visited him as a patient? Evidently he was. But did he, a sage, a philosopher, a puritan, a practical physician, endowed with an insight and a foresight such as the world has rarely seen,—did he feel competent to enter into marital relations with a young woman of less than half his age? His own Attorney, the lawyer Isensec, who drew up the marriage contract, in his defence of the conduct of both the parties, says as regards Hahnemann:—"The marriage has on neither side any ambiguous subordinate purpose whatever. The old man, grown grey in incessant activity, and persecuted and aggrieved by all of his more intimate acquaintance, soon experienced in his conversation with Mlle. d'Hervilly, who had come to him as an invalid, a higher enjoyment of life than he had previously surmised, and this rare enjoyment elicited a profound desire to end in quiet and cheerfulness the last days of his stormy life, in cordial union with the creator of this higher felicity."

That Hahnemann expected to be happy and was happy with his new consort and in his new home in a foreign land, we have his own testimony. We have first of all his last Will, then his own letters. In the 12th clause of the Will he says: "On the eve of my departure to Paris where, far away from the country in which I had to suffer so much, I probably shall remain, and where I hope to find with my beloved wife that peace and happiness for which my desired marriage will be a sufficient guarantee," &c. To Hering he wrote in October 1836, a year and eight months after his second marriage: "I am in Paris, and may settle here. My incomparable second wife, a

model of science, art, industry, with the noblest heart and intellect, and filled with unspeakable love for myself, from her youth honored and valued by the most highly esteemed people here, Marie Melanie d'Hervilly, makes what remains to me of life a heaven upon earth since the 18th January, 1835, in Coethan, and since the 25th June, 1835, in Paris. All this has made me at heart ten years younger, and for forty years I have not enjoyed such unalloyed health as since then. My Melanie anticipates all my wishes and needs, without waiting for a hint from me—she is an angel in human form."

He wrote to his favorite disciple, Stapf, from Paris, in Nov. 1836, "I live here with my dear wife, healthy, happy, and honored;" and again in April 1838: "I live here highly respected, partly no doubt because my wife is a Frenchwoman of good family and has a large circle of distinguished friends; and I enjoy better health and spirits than for the past twenty years. Many Germans, who knew me formerly, tell me I look many years younger, for which I have expressly to thank my loving warden, my dear Melanie"

In January 1843, a few months before his death he wrote to his daughters: "We are now in the midst of winter. I enjoy my life as much as business permits me, and shall go to-day, as I did last Thursday, to the Italian Opera until midnight in company with my dear Melanie and Father d'Hervilly." There can be no question, then, that up to this time of his life, that is for eight years after his second marriage, he was in the enjoyment of health and of a sort of happiness which he prized much.

We are quite willing to admit that both the health and the happiness that Hahnemann enjoyed in Paris were due to his new consort. It was not without a purpose that she lost no time, after their arrival in Paris, to procure for him the right to practise; and having done so it was but natural that she should be solicitous of his health. And for a woman of her youth and beauty and cultured intellect, associated with varied accomplishments, such as painting and poetry and music, for such a woman to keep a man of wonderful endowments and the most tender susceptibilities, though in advanced age, in high spirits and even in a state of perpetual bliss, was no difficult task. It would be uncharitable not to believe in the sincerity of what she

wrote to Dr. Balogh: "God is always near those who are right, and France is accessible to all courageous men who love science; and have I not, though a woman, traversed Europe to fetch Hahnemann to Paris?*" Rest assured the most thoughtful and tender cares are bestowed incessantly upon him. He is as fresh and ruddy as a rose and as blithesome as a young bird; indeed, one might truthfully say that since he has been with me he becomes every year one year younger."

But we think it should be admitted also that, but for his change of life from that of a recluse in Coethen to that of a gay citizen of the most fashionable city in Europe, he might in all probability have lived longer. It is inexplicable to us how Madame, with her solicitude for his health did not hesitate to frequently expose him to the night air by taking him to the opera and keeping him there till midnight even in the depth of winter, knowing that for years he was subject to a bronchial catarrh every spring, unless she had thought that the vital energies of her "young bird" were inexhaustible under her care. Much more inexplicable is the fact that Hahnemann should have submitted to lead such a life in violation of the laws of health which he propounded better than almost any other physician of his time. Did he think that under the sheltering wings of his protecting angel he could defy those laws with impunity? If so, we are bound to say, infatuation could not have gone further.

Whether there was deep-designing selfishness at the bottom of all this apparent devotion, or whether there was real devotion permeating a positive selfishness, it is not possible to affirm. But the fact remains that Madame Melanie Hahnemann, whatever might have been her real sentiments towards Hahnemann while he was alive, and whatever were her professions of devotion and love towards him, proved herself, from the time his life was despaired of and after, quite a different being from 'the incomparable wife' and 'the angel in human form' as Hahnemann believed her to be, and from the devout worshipper as she made others believe her to have been. To resolutely and sternly refuse his favorite daughter and her son an interview with the dying man, is conduct which no ingenuity can explain, and no code of morals can

* Here Madame M. Hahnemann seems to us to betray the primary object of her visit to Coethen.

defend. To bury, 'with less decency and less regard than that which is shown to the poorest of the sorrowing poor,' the husband whom she said she had 'married not for his property but for enthusiasm,' whom she professed to worship as a god, does betray conduct which one feels reluctant to characterise. And what is to be said of her subsequent conduct in neglecting the grave of that most illustrious husband during the thirty-five years that she survived him?

Hahnemann died on the morning of the 2nd July 1843, after an illness, bronchial catarrh with exhausting diarrhoea, which had begun on the 12th April, "two days after he had celebrated his eighty-seventh birth-day in excellent health and spirits." The widow, it has been said, in her bewilderment, omitted to send notice of his funeral to relatives and friends. But she had presence of mind to go to the proper magistrate to get permission to have his remains embalmed, which was done by Ganai, the most celebrated embalmer of the day, and it was not till this had been done that she thought of issuing notices of the funeral, but such was her bewilderment still that she omitted to mention the hour of the funeral! The uncharitable, however, would be inclined to look upon the whole procedure as designed to give Hahnemann as obscure a burial as could be imagined, and to prevent his numerous friends and disciples from paying their last homage to the man they so much admired and almost adored.

Dr. Suss Hahnemann, of London, a grandson of Hahnemann, who with his mother Amalie was present on the day of his death and at his funeral, gave the following account of the burial in the *British Journal of Homœopathy* for October 1864, fourteen years before the death of Madame M. Hahnemann, and was never contradicted: "The ostentatious affection which the wife displayed towards her husband whilst alive soon vanished after his death. The immortal Founder of Homœopathy was buried like the poorest of the poor; his funeral taking place as early in the morning as six o'clock, under a pelting rain, a common hearse bearing the remains of the great man to his last rest, only his wife, his widowed daughter, my late mother, myself, and Dr. Lethiere being mourners who followed. The coffin was deposited, and is still at the present moment, in an old vault, where his devoted wife had already deposited the remains of two aged friends,

so that Hahnemann's wish to have on his tomb-stone the words written, 'Non inutilis vixi,' remains in abeyance."

The following is another account of the funeral given by Franz Albrecht: "In order to show that it is a matter of no consequence to us to place in a favorable light an event interwoven with the catastrophe of Hahnemann's life-drama, or to work it up in any partisan sense and erect thereon a showy structure of finish, and in order to remain entirely free of prejudice also, we will give here a manuscript report of the interment of Hahnemann's earthly remains. Of course Melanie plays a very conspicuous part in the obsequies. Hahnemann's body was embalmed, laid in an exceedingly plain wooden coffin, lined with zinc, and placed in a vault in which Melanie had already buried two friends. All the coffins are visible through a grated door. At the hour that Hahnemann was buried the rain poured down in torrents. The funeral cortege was very small, consisting only of Melanie, daughter Amalie, Dr. Suss, Uncle Leopold Suss, and the servants of the household." Albrecht evidently mistook the young doctor Lethiere for uncle Leopold Suss, for if Leopold Suss had been actually present, Suss Hahnemann could not have omitted him in his account.

Thus the funeral which was expected to be "one of the largest ever solemnized in Paris," was the poorest and unaccountably the most disreputable that could be imagined.

But what are we to say of the neglect of the grave by the devoted wife and by her adopted daughter? Dr. François Cartier of Paris, who is taking so much interest in the matter, says: "The celebrated Chargé, who had been physician to the Emperor Napoleon III., made repeated persevering efforts to induce M^dme. Hahnemann to allow a monument to be constructed to the founder of homœopathy; the widow, who practised the method of the master in the rue du Faubourg St. Honoré, under the legal responsibility of her son-in-law, a son of the great Boenninghausen, or perhaps Boenninghausen himself, I do not know exactly ~~who~~, obstinately refused."

The adopted daughter (who had been adopted we are told by the first husband of Melanie!), Madame Boenninghausen, wife of a son of the great Boenninghausen, has proved quite a worthy daughter of the worthy adoptive mother. While she religiously

keeps in order the tomb of Madame Hahnemann, she utterly neglects the tomb of Hahnemann himself. "A corroded roofing of zinc, railings eaten away by rust, a stone without an epitaph, with weeds all around—such," says Dr. Cartier, "is the resting place of all that is mortal of this man, whose teaching is recognized by more than 12,000 physicians!" Dr. W. A. Dewey, of New York, who, after the International Homœopathic Congress of 1896 was over, visited Hahnemann's tomb on the 11th August, found it a simple sarcophagus of stone, unmarked, there being no name on it! Who lies beneath it could only be known from the tomb that was beside it, which was distinctly marked and was that of Madame M. Hahnemann, with flowers around it and wreaths upon it, showing that some one was caring for it.

It is gratifying to learn that the scandal and the disgrace of fifty-five years of oblivion and neglect of the grave of the greatest benefactor of mankind of the century, is about to be wiped off. Our readers are no doubt aware that at the suggestion of Dr. Brasol of St. Petersburg at the last International Homœopathic Congress a representative International Committee was appointed "to ascertain the condition of Hahnemann's tomb in the Mortuarte cemetery in Paris, to consider the measures necessary to put it into a proper condition, and to erect a suitable monument to Hahnemann to celebrate the centenary of his teaching." The Société Française d'Homœopathie, acting in concert with this Committee, "has succeeded," as will be seen from the following circular letter which we have great pleasure in inserting here, "in obtaining a deed signed by the heiress of Hahnemann, whereby she authorizes it to raise a funeral monument over his grave and to maintain it in perpetuity." We need hardly remind our readers that this success has been due almost entirely to the untiring exertions of Dr. Cartier.

Now is the opportunity for all who have benefited by homœopathy, who are believers in it, who are lovers of truth and desire its propagation, to show their homage and duty to the man who, in spite of persecutions unparalleled in the annals of medicine, matured and carried out the most beneficent reform in it, and established it on the unalterable basis of a law of nature. America, free and liberal America, is raising a monument to his memory at a cost of £ 20,000. Ought the monument over his

tomb to be a less worthy one? If the United States of America alone could raise a sum of £20,000, cannot the whole world (including the U. S.) raise an equal sum? Our own country cannot vie with the countries of Europe and America in the number of its homœopathic practitioners or in the number of the adherents of the system. But small as the number of homœopathic practitioners and of those who believe in homœopathy is, they have their share of duty in this matter, and they ought to perform it worthily and well. In the words of the *Homœopathic World*—"We hope that none will be deterred by the smallness of the amount they can afford. It would be better to have a wide subscription of small sums than two or three large ones."

Subscriptions may be sent to Dr. Hughes; or, as it may be inconvenient to send small sums by postal order, we shall be glad to receive any that may be sent to us, and forward them to Dr. Hughes, as soon as they come up to respectable amounts. The sums received will be acknowledged by formal Receipts, and also by the names of the subscribers with the amounts of their subscriptions against them being printed in this Journal.

CIRCULAR LETTER OF DR. HUGHES ON THE MONUMENT TO BE RAISED
OVER HAHNEMANN'S TOMB IN PARIS.

SIR,—As you have probably learned from the last two numbers of the *Revue Homœopathique Française*, the negotiations with the hitherto owners of Hahnemann's tomb in Paris have (thanks to Dr. Cartier) reached completion, and the ground with its honoured contents is legally at the disposal of his disciples, who are represented in this matter by the committee appointed for the purpose at the International Congress of 1896. What shall be done with our trust is a matter for deliberation; but ere we can arrive at any judgment it is necessary to know what funds we shall have at our command. The following letter has accordingly been drawn up, and has received the approval and signature of all the members of the Committee:—

"To

"Moved by a sentiment of respect for the memory of the founder of homœopathy, the International Congress of his disciples, meeting in London in 1896, formed a committee having for its aim the raising to Hahnemann a tombstone worthy of him; that which now marks the place of his mortal remains being rude and poor.

"The Société Homœopathique Française, working in union with the International Committee, has at last, after fifty-five years of oblivion and neglect, succeeded in obtaining a deed signed by the heiress of Hahnemann, whereby she authorises it to raise a funeral monument over his grave and to maintain this in perpetuity. We propose to raise such a monument by international subscription, feeling sure that all who value homœopathy will acknowledge that there is no burial-place on earth which more loudly calls for such a souvenir than that wherein repose the ashes of our illustrious master. To this his glorification we invite the homœopaths of the whole world. Will you aid us in our task by employing, as regards your own country, such means as seem to you most suitable for making our project known and collecting subscriptions towards it? And may we consider you (or will you find us another who will so act) as a corresponding member of our Committee, with whom we may put ourselves in regular communication?

"The date of the inauguration of the monument is to be the occasion of the meeting of the International Homœopathic Congress in Paris in 1890. The time before us is therefore short, and we shall be grateful if you will take the matter in hand as soon as possible. You will kindly address your answer to this letter to one of the members of the Committee, preferably the President or the Secretary.

"With the assurance of our high esteem, believe us to remain,

"Yours very faithfully,

"LEON DE BRASOL, M.D., President,

"8, Nicolaïevskaia, Petersburg, Russia.

"FRANÇOIS CARTIER, M.D., Secretary,

"18, Rue Vignon, Paris, France.

"RICHARD HUGHES, M.D.,

"36, Sillwood Road, Brighton, England.

"BUSHROD JAMES, M.D.,

"Cor. 18th and Green Sts., Philadelphia, U.S.A.

"ALEXANDER VON VILLERS, M.D.,

"7, Lüttichaustrasse, Dresden, Germany."

This letter, in its original French, or its foregoing (free) rendering into English, will be sent to some society or leading physician in every country not represented on the committee. The members of the Committee will themselves undertake the work desiderated for their own respective countries; and I think I cannot better initiate my share of the task than by sending the present letter to our British Homœopathic journals. I will therefore, sir, beg your insertion of it, and any commendation to your readers you may feel disposed to award it; and remain,

Yours very faithfully,

RICHARD HUGHES.

Brighton, February, 1898.

THE FORTHCOMING MEETING OF THE AMERICAN INSTITUTE OF HOMŒOPATHY IN OMAHA.

We have received as member the following circular letter announcing the forthcoming meeting of the American Institute of Homœopathy, and we have great pleasure in giving it the widest publicity.

"The Executive Committee, in whose care the Institute has placed its affairs for the year 1898, sends you this hearty greeting.

"With one exception, this is the first time the Institute has ventured farther west than the great Mississippi. The recent rapid growth of Homœopathy in the West, and the interest in the western societies, promise much for the Omaha attendance. Indeed the whole present membership, and a large prospective one west of the median line are already so thoroughly aroused and interested for the coming meeting that their attendance in large numbers is fully assured. If any extra attraction were needed to induce our eastern men to make the slightly extended railroad trip, they can find it in the circular of the Trans-Mississippi Exposition with its beautiful illustrations showing a second edition of the "White City." The buildings for the various industrial purposes, for the United States Government, and for eight different states, are planned on an elaborate scale of architecture.

"Dr. Wood, as chairman, and his large local committee of all the Homœopathic physicians of Nebraska and Western Iowa have shown great activity and enterprise in already perfecting arrangements that we hope will induce you to place yourself and your family under their hospitable care for at least one week. They have secured for headquarters "The Millard" Hotel, and assure us of abundant hotel room at prices to suit everyone. They have planned for attractive excursions to the Rocky Mountains, Yellowstone Park, etc." Indeed, it would appear that this excellent committee with the push of the West is going beyond all precedent. Moreover, the transportation committee will quite likely secure one-half fare on all railroads leading to Omaha.

"The general interest manifested by our medical journals along the whole line, so early in the year, is decidedly encouraging. The discussion and criticism on Institute work will inevitably produce good results. The faithful critic is one's best friend.

"You, doctor, should attend the Omaha meeting in June; first, because the American Institute of Homœopathy, standing as it does for the best in scientific and practical medicine, is eminently worthy of being sustained by every one of its members; second, because it needs your support in maintaining a high standing in the medical profession. You can contribute to such a desirable result by assisting in its deliberations and discussions. Hence we earnestly urge you to come prepared to discuss at least one of the subjects named in the programme which you will receive before the time of meeting. Scientific research is constantly making discoveries, some of which, we find on investigation, affect the practice of both the physician and surgeon. In the corridor and in the sessions of the Institute you can have face to face discussions on the adaptability of these adjuvants to your practices. But more than all, we want the grasp of fellowship in the common cause of humanity and a noble profession." Fraternally yours,

A. R. WRIGHT, M.D., President.

E. H. PORTER, M.D., Secretary.

The following glowing description of Omaha by Dr. D. A. Foote, Chairman Sub-Committee Press and Correspondence, Local Committee of Arrangements, will, we hope, be further attraction to members for attending the meeting: "Omaha is the gateway to a realm of sublime scenery and unrivalled wealth. From this Gate City radiate an half-dozen railway trunk-lines, through Nebraska, the greatest corn-producing state in our country, and with its great stock industries and beet-sugar factories and varied farming products, fast becoming the richest of the western states. Beyond are the Alps of America, snow-capped, ice-mantled, with silent, congealed, eternal rivers projecting into the valley as mighty glaciers; mountains of gold and silver; Gardens of the Gods; springs, veritable Fountains of Youth; and scenery of unrivalled grandeur. To the north-west are the Black Hills with their golden treasures; the world-renowned Homestake mines; the Hot Springs with the famous hot plunging bath; the Wonderful Wind cave with ninety-six miles of sub-terranean depths already explored; fishing scenery, hotels and transportation facilities all that can be desired. Two trunk-lines compete for travel here."

SIR GEORGE KING, K.C.I.E., M.B., LL.D., F.L.S., F.R.S.

The Medical College of Calcutta has recently lost by retirement two of its most distinguished professors. Dr. D. D. Cunningham, Professor of Physiology, had to retire on account of ill health before his time. Sir George King, Professor of Botany, retired after his full term of service, over thirty-two years, and he too at the time of his retirement was, we are sorry to say, in very bad health.

From all accounts we learn that as professors they were what the teachers of the young should be. They were not only masters of their subjects, but masters of themselves. They were not only never unkind to any body, but were filled with kindness to overflowing, and were animated by genuine sympathy and strict impartiality towards all. This last trait of character was especially appreciated by the native students. Whatever other defects there might be in the character of the Hindus, ingratitude is not one of them. Indeed, we speak the sober truth when we say that, gratitude, especially to their preceptors, is an inherent and a predominant quality of our countrymen.

The late Dr. Mouat, who was for many years professor and principal of the Calcutta Medical College, bore testimony to this trait of the Hindu character. In an address which he delivered at the Canning Institute, Howrah, on the 20th April 1868, he said: "Gratitude—I sometimes hear many of my countrymen exclaim, who ought to know better—has no place in their hearts. The word is unknown alike to their learned and their vulgar tongues.' When I hear such expressions, I always say, 'stop a minute, my friend; you travel too fast. You jump at your conclusions without thought or reflection. Have *you* rejoiced in their joys, have *you* sympathized with their sorrows? Have *you* thrown your doors open to welcome them; have *you* ever attempted to cultivate their friendship, or to meet them as your social equals? Until you do these things, you are not qualified to condemn them, or to assume that which has no existence, save in your own prejudices and want of knowledge.' So far as my limited experience extends, I can give the most emphatic denial to the charge. * * Among no people whose history I am acquainted, does the grateful memory of their real benefactors live, and flourish in

freshness and vigour more than with the Hindus who are the subjects of the British Government."

The second and the more abiding conquest which the English nation can make of India is the conquest of the heart of its inhabitants, and the means of achieving this are the simplest imaginable; means which will not cost England a penny, means which are at the disposal of every Englishman. These are sympathy and impartiality. And whoever has shown these humane qualities, has not been disappointed. It is because Drs. King and Cunningham were kind to their native pupils and sympathetic toward natives generally that we delight to honor them and remember them with gratitude.

In a previous number of this Journal we have given some account of the scientific work of Dr. Cunningham. In the present number we propose to give a brief account of the scientific work of Sir George King, which was both prolific and important, the Journals of the Asiatic Society of Bengal, and the Annals of the Royal Botanic Garden being full of them.

The date of Dr. King's first commission was the 2nd Oct. 1865, from which date to 6th Feb. 1866 he did duty at Netley. He arrived in India on the 11th April 1866 when he was appointed Supernumerary Assistant-Surgeon at the General Hospital, Calcutta, in which capacity he acted only for a month and few days. For, we find him appointed House-Surgeon in the Calcutta Medical College, on the 18th May of the same year. Here also he served for a short time, for at the end of three months his services were placed at the disposal of the Government of India in the Military Department, from the 20th August 1866 to the 10th July 1871.

It was on this last date that his scientific career may be said to have truly begun, for it was on this date that he was appointed Superintendent of the Royal Botanical Gardens at the Presidency, (located at Shibpore), and was *ex-officio* Professor of Botany in the Calcutta Medical College, and *ex-officio* Superintendent of Cinchona Plantations in British Sikkim, in all which capacities he acted with the zeal and earnestness of a scientific devotee. He was in addition appointed Director of the Botanical Survey of India on the 1st May 1891. All these posts he filled till the end of his service. He was promoted to the rank of Surgeon-Major in Oct. 1885, and to that of Brigade-Surgeon-Lieutenant-Colonel in April 1889.

The following are some of his most important scientific works embodying the results of vast and unwearied research:—

1. Monograph of the Species of Ficus of the Indian and Chinese Countries.
2. Monograph of the Species of Artocarpus of British India.
3. Monograph of the Species of Quercus and Castanopsis of British India.

4. Monograph of the Species of Magnoliaceæ of British India.
 5. Monograph of the Species of Myristica of British India ;
 6. Materials for a Flora of the British Malayan Provinces ;
 7. Notes on the Lion of Abu ; and Notes on the Birds of the Goona District. These were among his earliest papers and were published in the Proceedings of the Asiatic Society of Bengal in 1868.

8. Notes on the Vegetable Products and Farm Foods of Rajputana and Marwar.

9. Papers on new Species of Primula Ilex and Ficus, and on other botanical subjects.

Thus he commenced his career as a zoologist and ended it as a Botanist of the first eminence. His reputation as a scientist soon spread beyond the limits of India, and in appreciation of his eminence as an Indian Botanist and Quinologist and of his services to Botanists and Naturalists in India, he was elected a Fellow of the first Scientific Society of the world, the Royal Society of London, in 1887. The Edinburgh University lost no time in conferring upon him the honorary degree of LL.D. The Government of India, in recognition of his varied and valuable services, chief among which were the extension of the knowledge of the Flora of India, the successful development of the Cinchona plantation in Darjiling, and the cheapening of the process of manufacturing the cinchona alkaloids which has proved an inestimable boon to the poor, first conferred upon him the Companionship of the most Exalted Order of the Indian Empire, and then the Knight-hood of that Order on the first of January of this year.

We have great pleasure in giving here the short but very appreciative resolution of the Bengal Government over the signature of the Hon'ble Mr. Risley, recounting his services as a servant of Government and as a man of science. We give below also the proceedings of a meeting held at the Calcutta Medical College under the presidency of the Principal, Dr. Bomford, in which the students of the College presented a valedictory address to Sir George. Both the address and the reply are characteristic.

There is a movement on foot, we are happy to notice, to commemorate the scientific labors and official careers of Sir George King and of Dr. Cunningham by a permanent memorial in the form of medallion portraits of both, to be placed in the Zoological Gardens, with replicas of these portraits in the Asiatic Society's rooms and, should the funds admit, of a similar portrait of Sir George King in the Royal Botanic Garden. We heartily commend this proposal to the numerous friends and admirers of Sir George King and Dr. Cunningham. We would go further, and hope that the subscriptions would come up to such an amount as to admit of similar portraits being placed in the

Calcutta Medical College. For this latter purpose, the students of the college should be invited to come forward with small subscriptions suited to their means, and we are confident they will cheerfully obey the call.

RESOLUTION.—*The 1st March 1898.*

By the retirement from the public service of Brigade-Surgeon Lieutenant-Colonel Sir George King, K.C.I.E., M.B., F.R.S., Superintendent of the Royal Botanic Garden, Calcutta, Director of the Botanical Survey of India, and Government Quinologist, Bengal, Government loses one of its most distinguished and valued servants. Sir George King's labours in the fields of morphological and systematic botany have greatly extended our knowledge of the flora of India and the Malay Archipelago, and have established his reputation as a botanist throughout the scientific world. Nor was he less successful as a practical administrator. The striking improvements that have been effected during the past twenty-five years in the Botanic Garden at Sibpore are due to his business capacity and his talent for landscape gardening. By developing the Sikkim cinchona plantations and introducing the manufacture of quinine by a cheap process he rendered it possible to introduce and extend throughout the Province and in other parts of India the system of selling quinine by the dose, and thus placed within the reach of the poorest peasant a remedy for the malarial fever that prevails in so many districts. Sir Alexander Mackenzie takes this opportunity of placing on record his high appreciation of Sir George King's services, and trusts that on his retirement from official work he will continue to pursue his scientific researches.

By order of the Lieutenant-Governor of Bengal,

H. H. RISLEY,

Secretary to the Govt. of Bengal.

VALEDICTORY ADDRESS TO SIR GEORGE KING BY THE STUDENTS OF THE
CALCUTTA MEDICAL COLLEGE.

A very pleasing ceremony took place on February 28th, in the theatre of the Calcutta Medical College, where the students of that institution presented Sir George King, K.C.I.E., with a farewell address on his disconnecting himself with the college and leaving India preparatory to retirement. The theatre room was very tastefully decorated, and among those present were Dr. Bomford, Dr. Prain, Mrs. Hodgkins, Dr. Evans, Dr. H. C. Ghosh, and all the students. Dr. Bomford, on being voted to the chair, rose and said that, when they heard that Sir George King was going to leave Calcutta, the students expressed a wish to read an address to him expressing regret at his departure and the loss which they all felt. As they all knew, Sir George King had been in the college very much longer than any other person. Ever since then he had taken a great deal of interest in the affairs of the Medical College, and although much of his work lay outside the college, he never allowed it to interfere with his devotion for the particular institution. He had also taken a great interest in everything connected with the college, especially with the students. Of course, there were many other things which he had done for Calcutta and for India. They all knew he had made quinine what it was, a shop drug, available for everybody; and they had known what he had done for the Botanic Gardens, the Museum, the Zoological Gardens, and the University. Of course, he had not merely a Calcutta or Indian reputation, but a worldwide reputation.

They all regretted his departure very much, and trusted that he would carry away happy recollections of the Calcutta Medical College. Dr. Bomford then called on Mr. Heera Lal Basu, one of the senior students, to read the address, which ran as follows :—

To Brigade-Surgeon Lieutenant-Colonel Sir George King, K.C.I.E., M.B., F.R.S., Indian Medical Service, late Professor of Botany, Calcutta Medical College,—The students of the Calcutta Medical College, having heard with deep regret of your approaching departure from India and retirement from the Indian Medical Service, desire to express their sense of the loss which they sustain by your retirement, and their solicitude for your speedy restoration to health. While, however, they sincerely regret the loss of a Professor who has always displayed a true and kindly interest in the students of the college, they heartily congratulate you on the distinction which has marked the close of your thirty-two years' service in this country. They are proud to think that not only the later years of your service, but also the earliest, were associated with their college and college hospital, and by this humble tribute desire to testify their hearty appreciation of your labours on their behalf. They valued your lectures and demonstrations, and will ever cherish the memory of your presence among them, for the gentle, kindly manner of your personal address has deeply graven itself on the hearts of those fortunate enough to come before you. They pray God that your life may long be spared, so that with renewed health you may enjoy the period of rest you have earned so well. In bidding you farewell, the students heartily wish you a pleasant voyage to England and many happy years in your own country.

The address, which was beautifully mounted on vellum and fringed with gold and enclosed in a handsome swamy silver casket, was handed to Sir George King by the same student. In accepting the kind token of their esteem, Sir George King said that he was a poor hand at public-speaking, but that on the present occasion he was very much touched by the fact that he was that day breaking a connection which had begun since 1866, that is, 31 years ago. His connection with the college was the very earliest he had in India. Soon after his arrival in India he was appointed House Surgeon. He was then the only House Surgeon; now they had five or six House Surgeons. Then, after a little absence, he came back to the college as a teacher of botany, and since then he had always been with them. A short time ago he was taken by the roots—if he might say so—from the Botanical Gardens and made over charge of the appointment he held there to his friend and colleague, Dr. Prain. Now, he felt he was severing his connection with the college with which he had an older connection than the Botanical Gardens. He was greatly touched by the address and thanked them for it, as well as for the beautiful casket with which it had been presented. As he was an old man who would be leaving them shortly, and would probably never see many of them again in this world, and would give them a word of advice. The profession of medicine was one of the most ennobling of professions if followed from a high motive. It was one of the most ignoble, if followed from a low motive. He regretted very much that Lady King was unable to attend owing to ill-health. He once more thanked the students for their kind address, wished them good-bye, and hoped they would rise to eminence in the profession they had chosen. Three hearty cheers were then given for Sir George and Lady King, and the meeting dispersed.

EDITOR'S NOTES.

The Old Adam and the New Eve.

The advocates in Germany of the policy of admitting women to the medical profession appear to have won a considerable victory, for it is announced that the Chancellor is about to make use of his legal right to control the conditions of examination and of admission to practise medicine and pharmacy by authorising the admission of women to the examination. The universities are not yet open for instruction, but as the State examination, which is the one portal to the legal practice of medicine in Germany, is now open to them, they will be able to pursue their studies in some university which admits women, as for instance, one of those of German-speaking Switzerland. The new woman is the subject of much admiration and of much fear, both equally foolish. To begin with, she is not at all new; and, in the second place, she remains woman. A great and increasing number of women have to earn their own living, and in the process are exposed to the same influences as men. Some few lead such a life from choice, but we may be sure that they will never be a large number. The former should be pitied and helped; the others should not be thwarted, lest their small martyrdom bring more proselytes than their success. The great majority are in business and lead a hard life of it. Some have sufficient means to enable them to enter a profession, of whom most are teachers of languages, history, music, or other arts. The army, though there have been women soldiers, the bar, in spite of Portia's success, and the Church, are as yet closed to them, but it has been allowed by common consent that medicine ought to be open to them, and there are a certain number in our ranks. The whole movement is, indeed, a useful relief for struggling women, and one which for that reason we would gladly help; but to talk of it as a change in the relation of the sexes, or as a movement of great social importance, is an error of judgment. Men will always cultivate the qualities which women admire, and women those which men wish to see in them, with the happiest result, for each sex is a good critic of the other, while those who prefer a life of single independence will not perpetuate their peculiarity.—*Brit. Med. Jour.*, Jan. 29, 1898.

The "Fatigue Value" of School Classes.

An interesting attempt to introduce scientific precision into ideas as to the nature and causes of overpressure in schools has been made by Dr. Kemsies, the headmaster of a large German school. He states his personal experience of the conditions which influence the working capacity of his pupils. The best work of the week is done on Monday and Tuesday (after the Sunday holiday). On Tuesday afternoon the work has already begun to deteriorate. He strongly advises a holiday on Wednesday, in order to check the mental exhaustion, and so raise the standard of work for the second half of

the week. The first two hours of the day produce the best work; after the mid-day meal there is marked falling off. If the individual lessons last longer than two hours the greater part of the class suffer from fatigue; a recreation interval after each two hours' lesson is recommended before the next lesson begins. After the holidays (which never last longer than four weeks) the quality and quantity of work are markedly increased. The fatigue value of different subjects is given. Gymnastics produce the greatest fatigue; the work done after this is almost useless. Dr. Kemsies considers that sleep, bathing, and walking are quite sufficient bodily exercise. Mathematics come next in the list. This is followed by foreign languages and religion. History, German, and natural history are bracketed as producing the least fatigue. Singing and drawing are very fatiguing to some, but not to others. The connection between the age limit and the fatigue value of the different subjects is not given, which rather detracts from the value of the conclusions, but if English schoolmasters would make similar observations on the fatigue value of the different subjects they are in the habit of teaching, the results might prove of great value to those interested in educational matters. The term "fatigue value" is vague. A child often appears fatigued because he is bored by the teacher. He has lost interest in the subject before him, owing to the incapacity of the teacher to interest him. In this case the same physical and psychological picture might be produced as would be caused by real mental overwork. The German teacher does not encourage bodily exercise to the extent that is usual in this country. Cricket and football have possibly a lower fatigue value than gymnastics.—*Brit. Med. Jour.* Jan., 29, 1898.

Permanganate of Potash in Opium Poisoning.

Dr. Lorenzo N. Grosvenor, of Chicago, in a paper read at the meeting of the Illinois Homeopathic Medical Association upon "Permanganate of Potash in Opium Poisoning," (*Medical Era*, Dec. 1897), gave his experience with this drug as an antidote to the narcotic effects of morphine in a case that had recently been under his care. When he reached the house the patient was comatose, pupils contracted, insensible and the respiration eight or ten per minute. The usual methods for overcoming the effects of overdoses of the drug were used such as strong coffee, shaking, slapping, rubbing and dilating the rectum (this latter proving of most benefit) but they all failed in securing permanent results. As a last resort the doctor used a hypodermic injection of permanganate of potash, ten grains to the ounce of water. Of this solution twenty minims were used at a time and in half an hour after using the first measure the patient showed returning sensibility by resenting the tickling of the soles of feet. She was given in all four hypodermic injections and an ounce of the solution per rectum during the treatment, which extended over four and a half hours. Dr. Grosvenor concluded his excellent contribution with the following summary: From the study of the reports of a large number of cases, the following points seem worthy of recommendation:

1. When you find that opium, or any of its alkaloids, has been taken give a hypodermic injection of solution of ten grains of permanganate of potash, to the ounce of water, at short intervals.

2. Wash out the stomach twice, with clear water, keeping washings for chemical examination.

3. Wash out the solution with a solution of permanganate, two grains to the pint of water, until washings come back pink, retaining the solution one minute each time.

4. Give a glassful of solution of the permanganate of potash, ten grains to the pint of water every half hour, until recovery.

If the patient is unable to swallow, use the stomach tube with a large lower opening, and through the nose if necessary. Don't forget your rectal speculum; it may be of great help at critical moments.

In case of failure of heart and lungs, use artificial respiration and your hypodermic of strychnine.

The permanganate of potash is not a poison, but is a local irritant; therefore use a large quantity of a weak solution, rather than a small amount of a strong solution.—*Medical Visitor*, Jan. 1898.

A Unique Case of Complete Removal of the Stomach.

Great interest has been excited by the report of the successful removal of the entire stomach by Dr. Carl Schlatter, of Zurich. According to his own record of the case, published in the *Medical Record* (Dec. 25, 1897), the patient, a woman of fifty-six, was admitted to the hospital suffering from the classical symptoms of cancer of the stomach. Operation afforded the only chance of relief, and accordingly laparotomy was performed. The entire stomach presented itself in the shape of a hard mass extending from the cardiac to the pyloric extremity, and, strangely enough, the entire mass was freely movable. The entire organ was excised, but it was found impossible to join the duodenal opening with the esophageal by direct suture. Therefore he invaginated the duodenal rim and closed the opening by a double suture. He then secured a suitable knuckle of intestine from about fifteen inches further along the duodenal-jejunal fold, and this was sutured to the esophageal stump. The patient made a comparatively quick recovery, interrupted only by several attacks of vomiting, and three months later is said to be in good health. Microscopical examination showed the tumor to be a small-celled alveolar glandular carcinoma.

Dr. E. C. Wendt, of New York, considers the following conclusions justifiable:

1. The human stomach is not a vital organ.

2. The digestive capacity of the human stomach has been considerably overrated.

3. The fluids and solids constituting an ordinary mixed diet are capable of complete digestion and assimilation without the aid of the human stomach.

4. A gain in the weight of the body may take place in spite of the total absence of gastric activity.

5. Typical vomiting may occur without a stomach.

6. The general health of a person need not immediately deteriorate on account of removal of the stomach.

7. The most important office of the human stomach is to act as a reservoir for the reception, preliminary preparation and propulsion of food and fluids. It also fulfils a useful purpose in regulating the temperature of swallowed solids and liquids.

8. The chemical functions of the human stomach may be completely and satisfactorily performed by the other divisions of the alimentary canal.

9. Gastric juice is hostile to the development of many micro-organisms.

10. The free acid of normal gastric secretions has no power to arrest putrefactive changes in the intestinal tract. Its antiseptic and bactericide potency has been overestimated.—*Hahnemannian Monthly*, February, 1898.

Removal of fifty-eight inches of intestine from a pregnant Woman, with recovery and a safe delivery at term.

A "Loyal Alumnus" has reported the following remarkable case in a letter to the Editor, *Clinique* for Jan., dated CINCINNATI, January 3, 1898. This case is no less striking than the preceding.

Dear Dr. Ludlam :—The report of the removal of the human stomach by Dr. Carl Schlatter, of Zurich, Switzerland, has attracted much attention as the first successful case of the kind on record. It has also excited much discussion on other and kindred exploits in gastro-intestinal surgery, and the claims of other operators have been freely, perhaps too freely ventilated.

As a devoted friend of the "Old Hahnemann," of Chicago, permit me to refer your readers to an operation that was made by its former Professor of Surgery, the late Dr. George D. Beebe, in July 1869, twenty-eight years ago. The patient was a woman of forty, with a strangulated umbilical hernia, stercoraceous vomiting, singultus, a gangrenous hue of the enormous tumor, and the escape of some ounces of bloody serum, with the exposure of blackened intestine when the tumor was incised. *Four feet and ten inches* of the jejunum by measurement were removed, and, without asepsis or any of the modern technique that has made Chicago so famous in intestinal surgery since that date, the woman made a prompt recovery. Moreover, being about four months pregnant when the operation was made, she went to term without any mishap either to herself or to her child.

These facts are well authenticated. (See *The United States Medical and Surgical Journal*, Vol. V. 1869—70, pages 54 and 254.) The witness saw the patient after her complete recovery and after confinement, and he feels that full credit for this very remarkable operation and its result should be given to his old friend and teacher.

Labor Complicated by a double Vagina and Cervix Uteri.

We take the following curious case repeated by Dr. F. H. Honberger to the *Clinical Society* of Chicago, from the *Clinique* of Dec. 15, 1897:—

Mrs. C., primipara, a strong, hearty woman about thirty-two years of age, has always enjoyed the best of health; even during the period of gestation she was not disturbed by the many little ailments complained of by most women to a greater or less degree.

The first symptom of labor coming on that she discovered was a rupture of the sac and discharge of the waters or liquor amnii. Uterine contractions came on immediately with regularity, and quite frequent, not more than two or three minutes intervening between them. A vaginal examination was made about one hour after beginning of labor; the cervix was patulous, but with little or no dilatation. Everything appeared perfectly normal, with a vertex presenting. Labor was allowed to continue some hours, when another examination revealed the cervix dilated to about the size of a silver dime; the contractions still continued almost without interruption and quite severe; everything else appearing normal, labor was allowed to progress another two hours when, upon examination, the cervix was found dilated to about the size of a quarter, and quite soft. Continuing the examination during a contraction of the uterus with two fingers well up to the os, my attention was attracted by a peculiar contour of the cervical opening; it seemed rather flattened upon one side. After allowing the patient to rest a few minutes, I again crowded two fingers well up into the vagina during a partial relaxation of the uterus, and found that I could hook my fingers over what seemed to be a thick bundle of fibres dividing the cervix; this led to a careful examination of the vagina, which disclosed an antero-posterior septum, beginning at about the location of the hymen, extending the full length of the vagina and into the cervix to the extent of about one-half an inch. I could now pass a finger along one side of the septum to above its upper margin, and with a finger of opposite hand passed along the opposite side, bring the two in contact, showing that the septum was complete. The cervical portion of the septum was at least one-quarter inch in thickness and was now put upon the stretch during uterine contractions, but the vaginal portion remained lax and loose, so much so that one could make an examination along either side of it and not detect its presence. The patient was now placed under an anæsthetic, and after dilating the cervix to a little larger than the size of a dollar, the forceps were applied and delivery hastened. The application was made without a rupture of the septum, there being plenty of room upon either side of it, but it was felt to give way when traction was attempted; its fibres were severed near the centre, an eight pound child was delivered as rapidly as possible, but it was "stillborn," probably because of the almost continuous contractions of the uterus the waters having been entirely drained off, it allowed the uterus to contract sufficient to interfere with the fetal blood supply. After delivery, the edges of the septum were trimmed off as closely as

could be done, and sutured with a continuous catgut suture along each margin. The patient made an excellent recovery, no symptoms appeared to show there had been anything more than a perfectly normal labor.

Alcohol in relation to Microbial Diseases.

The effect of alcohol on the artificial production of immunity in animals in regard to rabies, tetanus, and anthrax has been recently studied by Dr. Deléarde. It has been frequently observed that persons addicted to alcohol suffer, as a rule, far more severely from the effects of microbial infections than normal individuals, and not long ago, in 1896, Abbot, of Philadelphia, showed that pathogenic bacteria, incapable of killing healthy animals, were able to produce fatal results in animals intoxicated with alcohol. This was found to be the case with the *B. coli communis*, the *staphylococcus*, and the *streptococcus*. Deléarde has turned his attention to the effect produced by alcohol on the artificial prevention of disease in animals; and, considering the great importance of the subject, it is to be regretted that his conclusions are drawn from so few experiments. It appears that a rabbit vaccinated against rabies, and then given considerable quantities of alcohol (introduced into the oesophagus by means of a tube) for several weeks, and subsequently inoculated with fresh rabid virus, did not succumb to rabies, whilst another rabbit treated similarly, only omitting the doses of alcohol, died of rabies. In this case the alcohol had apparently preserved the animal's immunity to rabies. On the other hand, a rabbit dosed with alcohol during the course of the anti-rabic inoculation, obtained absolutely no immunity from rabies; whilst a rabbit, first of all intoxicated and then vaccinated, acquired immunity to rabies as long as the supply of alcohol was stopped as soon as the vaccinations were commenced. In the case of tetanus, however, if the anti-tetanic inoculations were succeeded by the administration of alcohol, the animal lost all its artificially acquired immunity to the disease, and invariably succumbed to tetanus infection; again, if treated with alcohol during the vaccinations, it only acquired immunity to tetanus with difficulty, and if first of all intoxicated and then vaccinated, the animal obtained immunity as long as the supply of alcohol ceased when the vaccinations began. As regards anthrax, it is almost impossible, it appears, to protect animals from this disease if they are treated with alcohol during the vaccination period. On the other hand, animals first intoxicated and then vaccinated can acquire immunity providing, as in the other cases mentioned above, the alcohol is stopped as soon as the vaccinations are commenced, but they suffer considerably more during the process than animals which have received no alcohol. The experimental results obtained with rabies bear out the observations which have been made with regard to temperate persons and the antirabic treatment in various Pasteur institutes, and a very striking instance of the ineffectuality of the treatment. Such a case was recorded only this year. An habitual drunkard was bitten by a mad dog, as was also a child by the same

dog; both underwent precisely the same anti-rabic treatment. The man during the whole time continued to drink to excess, and subsequently died of rabies, whilst the child remained perfectly well. In the case of the administration of antitoxins it would appear, therefore, highly desirable that at least during the vaccinations alcohol should be prohibited.—*Nature*, Feb. 10, 1898.

The Disposal of the Dead.

There is considerable evidence that this important subject is beginning to force itself upon the attention of the public, and the question of how to dispose of the "majority" without injury to the "minority" which remains, will have to be answered by the help of modern science. Cremation is becoming more and more general, and recently Sir Seymour Haden, the veteran champion of rational earth burial, has pleaded his cause afresh in the *Times* with his accustomed eloquence. Burial is necessarily and naturally a matter in which we are swayed by sentiment, and it often happens that when a great sorrow overshadows us we find it easiest to do what is customary. Of late years a good deal has been done to mitigate the troubles which death brings to the living. Mortuaries have been established, the time which intervenes between death and burial has been lessened, and a great deal of the "pomp" of the interested tradesman has vanished. For this last reform the public is indebted to no one more than to Sir Seymour Haden. Now it must be admitted that there are few customs which have not their drawbacks as well as their advantages, and this question of the disposal of the dead needs to be calmly reviewed from every side. On the theory that a dead body is liable to be dangerously infective, and to become a breeding place for pathogenic microbes which may ultimately spread disease among the living, the most rational method of disposal seems to be fire. On the theory that a corpse is infective, it is advisable to subject it to a minimum of manipulation, and to dispose of it on the nearest available spot. When one reads, as we did lately, that a body was "embalmed," and then sent a long journey over land and seas to be cremated, one cannot but think that enthusiasm had got the better of common sense. Again, it must in all candour be admitted that there is not much evidence of any frequent spread of disease being due to dead bodies whether above ground or below; the living sick are more dangerous. The question of disposal of the dead must be looked upon, also, from the economic point of view; and it is clearly one of those questions upon which the ratepayer has a right to be heard. A body has to be decently conveyed to the crematorium, just as it has to be conveyed to the grave. The champions of cremation say, and say rightly, that when a body is burnt it is no longer a danger to the living. The champions of "rational" burial hold that the danger of burial to the living has been exaggerated; that cremation pours the products of combustion into the air; that the expense of simple inhumation is not greater than cremation; and that a cemetery, well managed, is a valuable open space which ultimately freshens the air by its

growth of herbage. The question is one of much importance, and it is clearly one upon which there is room for individual opinion. The time has certainly arrived when the *pros* and *cons* should be definitely laid before a Royal Commission or Parliamentary Committee.—*Brit. Med. Jour.*, Jan. 29. 1898.

Homoeopathic Dilutions in the Light of Physical Chemistry.

Prof. Ostwald of Leipzig, has recently published an article on the "Formation and Transformation of Solid Bodies." His results are of pharmaceutical interest in so far as he used homoeopathic triturations and determined their activity in a physical chemical manner. Prof. Ostwald's results are very briefly given in the following.

A soluble solid body possesses the property of changing from a solid to a liquid state when brought in contact with a solvent, and after evaporation of a solvent to return to its original state. In the case of salts their return to the solid state is called recrystallization. When a solvent has taken into solution as much of the solid body as it can hold at a given temperature, the solution is said to be saturated for that temperature; but when the solvent has taken up a larger quantity, the solution is said to be supersaturated. The longer or shorter time during which this supersaturation is capable of existing is called overcooling. This overcooled condition can, as is well known, exist for a long time when the solution is carefully protected. The solution solidifies, however, to a mass of crystals when the smallest particle of a crystal of the dissolved substance is brought into contact with the solution. This crystal particle may be so small that it is not visible with the naked eye, and can scarcely be recognized with the microscope. Prof. Ostwald has experimented with these supersaturated and overcooled solutions in order to determine the amount of crystal substance necessary to produce crystallization. In order to obtain very minute crystalline particles he triturated the crystals with powdered quartz. For farther trituration he used absolutely pure milk sugar. The quantitative relation existing between the triturated substance and the indifferent vehicle was as follows:

1 Trituration	1 gram	1-10	gram
"	"	1-10 0	"
"	"	1-10 00	"
"	"	1-10 000	"
"	"	1-10 000 0	"
"	"	1-10 000 00	"
"	"	1-10 000 000	"
"	"	1-10 000 000 0	"
"	"	1-10 000 000 00	"
10	"	1	"
"	"	1-10 000 000 000	"

As far as Prof. Ostwald put himself to the laborious task of making these triturations himself, but later he used the trituration machine of the homoeopathic Centralapotheke in Leipzig. The perfectly uniform results obtained in the experiment described above were as follows: Crystallization was induced when no higher than the ninth

trituration was used. Several substances, like salol, would work with this trituration only when freshly prepared. When older, the third trituration would still induce crystallization, but not the fourth. Only a single exception to this general law was found in the case of borax which induced crystallization as far as the seventeenth trituration. This result seemed so surprising to Prof. Ostwald that he made another series of triturations using the greatest possible care. These new triturations gave the following result: The ninth trituration of borax is still active, the higher triturations are not, thus agreeing with the results obtained with the other substances.

Homeopathy, as is well known, goes far beyond the ninth trituration, as it puts physiological experiments on a higher plane than the chemical. Prof. Ostwald's experiments are, however, in favor of the activity of minute medicinal doses. For when the one thousand-millionth part of a grain is sufficient to produce such visible results as the solidification of a solution by the formation of crystals, we can hardly say that the ninth trituration contains no more of the active substance. [Ztschr. f. Phys. Chemie 22, p. 289.]—*Minneapolis Homœopathic Magazine*, Jan. 1898.

The Influence of the Thyroid Gland on Metabolism.

The results of three series of researches on the influence of the thyroid body on nutrition have recently appeared. These researches are calculated to modify the opinion generally entertained in regard to the value of this organ. It is usually accepted that removal of the thyroid body leads to nervo-muscular disturbances, to tremors and twitching of muscle and tetanus, and to nervous depression and stupor. It is believed, too, that a substance—iodothylin—produced by the thyroid body possesses an antitoxic action, so that its administration as a medicine is capable of supplying the loss of the gland. The researches of Dr. H. Munk seem to show that this doctrine is untenable. It is true, indeed, that ablation of the gland is often followed by serious indisposition and by death but, on the other hand, more than 50 per cent. of monkeys and rabbits and 25 per cent. of dogs and cats remained unaffected by the operation. The thyroid body cannot therefore be regarded as an organ of extreme importance in the maintenance of life. Dr. Munk has satisfied himself that in the animals operated on no fragment of the organ was left, that there were no accessory thyroid bodies, and that no growth of other analogous organs such as the hypophysis cerebri was noticed. Moreover there were no poisonous effects observed from the products of normal metabolism acting on the nervous system. The differences noted in different instances were too numerous and too great to permit them to be referred to individual peculiarities in the formation, accumulation, and action of any special poison. Dr. Munk does not find that exposure of the animal after ablation to a low temperature favours the occurrence of tetanus or that exposure to a high temperature favours chronic cachexia without spasms. The cachexia observed occurs in consequence of disturbance of the digestive organs, insufficient exercise, and other bad effects of imprisonment; a myxœdematous

cachexia with or without antecedent tetanus does not occur in animals as a consequence of the extirpation of the gland. The disturbances of the economy occasioned by the operation were neither prevented nor removed by the artificial ingestion of the thyroid body and he is unable to support the statements of Eiselberg in regard to the effects of the transplantation of the organ. He admits that removal of the thyroid body endangers life, but denies that it is essential or highly important for the preservation of life. M. Schöndorff's experiments were directed to the determination of the metabolism of albumin in the dog on a diet containing thyroid gland substance as compared with a diet free from thyroid. The nitrogen, fat, and in part the amount of glycogen in the thyroid-free diet were accurately determined. The diet consisted of meat and rice or lard. Twelve experiments were made on the same dog, each lasting for several days. When the income and expenditure had been brought into equilibrium, five and then ten thyroid tablets were given for twenty-four days. The excretion of nitrogen first rose for a few days, then sank to the normal amount. The body weight steadily decreased throughout the whole period. This coupled with the known increase in the absorption of oxygen during the consumption of thyroid body points to the loss of fat. The increase in nitrogen loss at first, he believes, in opposition to all other experimenters, to be due to the elimination of urea and similar substances from the body. In the course of the following three weeks during which twenty tablets were given daily the dog, becoming thin, eliminated more nitrogen than it ingested. In order to prove that this excess of nitrogen elimination first occurs when the fat of the animal is greatly reduced, it was fed more freely with fat till equilibrium was reached and then supplied with thyroid substance. Transient increase of nitrogen elimination was again observed followed by diminution, indicating a retention of nitrogen in the system occurred. Still the total body weight diminished, so that there must have been consumption of fat. On the withdrawal of thyroid substance from the food the body weight immediately underwent an increase, (with retention of nitrogen in the body to no inconsiderable amount) whilst it diminished again when the thyroid was given coincidentally with increased metabolism of albumin. It would appear, then, that the body albumin is first attacked when the greater part of the fat has been used up. In the next experiment the dog was made to fast for thirty-eight days and during this period the elimination of nitrogen was the same as in a moderately fat dog, the excretion of nitrogen falling at first and then remaining stationary for twenty-six days, finally rising slowly. A consideration of the loss of weight of the animal led to the interesting conclusion that this was so small that in the final period of fasting not only was no fat consumed but the loss of body substance calculated from the elimination of nitrogen was greater than the observed diminution in body weight, and this could only be explained on the supposition that the animal retained water in its body. This view was supported by an examination of the body of the dog when dead, for whilst the normal water of the body amounts to 75 per cent. it was now found to be 80 per cent. The increase in the quantity of water was most remarkable in the bones, the

normal being 22-24 per cent. whilst it was here 54.07 per cent.—that is, it had increased about 120 per cent. The proportion of fat in the dead animal was 1.78 per cent. It was determined separately in each organ, the brain containing the largest quantity 8.812 per cent., the blood the smallest, containing only 0.261 per cent., from which Dr. Munk concludes that at the close of the period of feeding with thyroid body the animal contained abundant fat, so that there was no reason for the body albumin to be consumed. The third series of researches were undertaken by Dr. A. Schiff, who has found as a result of feeding animals with thyroid and hypophysis cerebri substances that there is greatly increased excretion of phosphates with comparatively small increase of excretion of nitrogen, which points to increased metabolism of bone substance.—*Lancet*, Jan. 29, 1898.

CLINICAL RECORD.

Indian.

CASES BY DR. BEPIN BEHARY MAITRA, M.B.

A. Case of Ovaralgia.

Hindu, female, widow, aged 22 years. Menses last 8 or 9 days, followed by leucorrhœa. Was attacked with ovarian pain about a month ago, which was cured by homœopathic medicines.

Since the last two days, has been suffering from pain in the right ovarian region. The ovarian and uterine regions are painful on touch. In the right ovary the pains come on in paroxysms, each one lasting a few minutes. The pains are:—as if the ovary is pierced by fish bones; during the paroxysm, she groans; the right ovary feels also as if grasped in a vice.

1st Jan. 1893. *Apis* 30 every half an hour, till the pains are relieved after which it is to be given at longer intervals.

2nd Jan. After a few doses the ovarian pains stopped entirely. *Mercurius Corrosivus* 6, three times a day.

This was a case not of inflammation, but of ovarian irritation, accompanied with slight peritoneal tenderness of the lower abdomen. The pain as if pierced by fish bones pointed to *Apis*, while the feeling as if the ovary was gripped by a vice pointed to *Colocynth* but this latter had not to be given, as the former very nearly cured the disease.

Merc. c. was subsequently prescribed to remove the remaining peritoneal tenderness.

Cases of Fever cured by Aranea.

CASE I.—*Remittent Fever.*

Peary, Hindu, female, aged 60 years. Suffering from fever of a remittent type for nearly a month. Fever aggravates at night with chill: chill all the while. Has fever now. Tongue coated white; no thirst; constipation; no drowsiness.

29th Oct. 1897. *Aranea* 6 three times a day.

30th Oct. Had no fever at night; feels chilly this morning. Continue.

31st. No more fever.

CASE II.—*Quotidian Intermittent Fever.*

Bilash, Hindu, female, aged 55 years. Fever lasts from noon for 8 hours. Chill all the while; very slight drowsiness; drawing pain in muscles. Heat and sweat absent.

31st Oct. 1897. *Aranea* 6 twice a day.

2nd Nov. Fever less; but has burning of palms and soles. Continue.

3rd Nov. No fever yesterday; has got pains in loins and back.

Nux vomica 6 thrice daily removed the remaining symptoms.

CASE III.—*Quotidian Intermittent Fever.*

Jorban, Hindu, male, aged 40 years.

10th Dec. 1897. Fever from 6 to 10 P.M.; chill all the while; drawing pains in the extremities and a feeling of heaviness in them; headache; heat and sweat absent. *Aranea* 6 one dose.

11th Dec. Fever from 7 to 10 P.M.; chill all the while; drawing pains in the extremities and headache continuing even now 8 A.M.; no thirst. *Aranea* 6 one dose.

12th Dec. Slight fever from 7 to 9 P.M. Chill slight for 2 hours; drawing pains in extremities continuing; slight ache of the eye-brows. *Aranea* 6 one dose.

13th Dec. Slight fever from 6 to 9 P.M.; very slight chill. *Aranea* 6 one dose.

14th Dec. No fever yesterday; feels hot all over; felt giddy when standing, yesterday; omit medicine.

15th Dec. No fever yesterday; no feeling of heat all over the body; had only headache from 6 to 9 p.m. No medicine.

The "feeling of heat all over the body" was a curative symptom.

CASE IV. *Quotidian Intermittent Fever.*

Hindu, male, aged 15 years. Gets fever every day from noon to 6 P.M.; chill strong, lasting all the while; burning of palms and soles; no drowsiness; thirst; headache. Heat absent, sweat in axillæ, chest, abdomen and thighs; none on head.

10th Dec. *Aranea* 6 one dose.

11th Dec. Fever from 1 to 5 P.M.; chill slight for three hours. Heat with burning palms and soles; drowsiness throughout chill; thirst; sweat in axillæ only. *Aranea* 6 once.

12th Dec. Very slight chill at 4 P.M.; could hardly feel it; only drowsiness at the time and nothing else. It was only the drowsiness that suggested that he had the fever.

13th Dec. No fever yesterday.

14th Dec. No fever yesterday.

CASE V.—*Intermittent Fever.*

10th Oct. 1897. Fever, every day from 8 P.M. to 4 A.M.; chill all the while; no thirst; no drowsiness; no cough; sweat absent. Fever at the same hour every day. *Aranea* 6 one dose.

11th Oct. Had slight fever from 2 to 5 A.M.; hardly any chill; heat, headache; no thirst; no drowsiness; feeling of heaviness in

abdomen and legs ; slight pain in extremities ; sweat absent. Headache continues even now. *Aranea* 6 one dose.

12th Oct. No fever yesterday.

13th Oct. No fever. Cured.

Remarks.

Aranea presents a very close resemblance to *Nux vomica*, in its chilliness, headache, drawing pains in muscles and limbs, coated tongue and bitter taste in mouth. But *Nux vomica* is distinguished from it by having violent, long-lasting heat with thirst as a prominent symptom. In *Aranea* there is scarcely any heat ; and "it is usually without thirst in any stage ; if any thirst, usually during heat," when it is present. Case No. IV had thirst.

Foreign.

A Case of Diarrhœa cured by Kali Nitricum.

By E. V. Ross, M.D.

November 20th, 1896, at 7 a.m., I was requested to visit Mrs. G., æt. 60, and found her suffering from an attack of diarrhœa which had been going on for past three days. She informed me that it was brought on from eating a small piece of veal three days previously. She had had one previous attack, caused as she believed from partaking of veal ; this attack lasted some six weeks and brought her to a very low state, and she was fearful that this attack would be even more severe as it had so far presented a more violent character. With pencil in hand I jotted down the following : Stools frequent and profuse, as many as 20 in twenty-four hours. Stools watery, dark brown in color. Before stool rumbling and griping in the umbilical region. After stool great prostration. Concomitants : Loss of appetite, thirst, tongue clean, nausea constant but more severe at times ; feels weak. Modalities : Aggravation from eating veal. *Bell's Therapeutics of Diarrhœa, etc.*, gives but one remedy as having the peculiar aggravation from eating veal, viz. *Kali nitr.* Benninghausen's *Therapeutic Pocket-book* gives the following : *Ars.*, *Calc c.*, *Caust.*, *Chin.*, *Ip.*, *K. nit.*, *Nux v.*, *Sep.*, *Sul.*, *Verat a.*, *Zinc.*

My first thought was to give *Ipecac.*, but after considering the symptoms of *Kali nitricum* as given in Dr. Bell's work I decided on the latter, giving two powders of *Kali nitr.* 3 m. (Jenichen), one hour apart and plenty of placebo to follow. Diet : "Scalded" milk.

November 21, 10 a.m.—Great improvement, stools gradually grew less during previous day. No stools during the night, sleeps quite soundly, feels quite well this a.m., but weak, appetite better, one quick natural movement this a.m. ; she continued to improve and has upon three occasions since the last attack partaken of veal without any ill effects.

"Some persons always have diarrhœa after eating veal. The curability of such cases with *Kali nitr.* needs somewhat more confirmation, but no other remedy has had this symptom so well confirmed as yet."—Dr. Bell.—*Homœopathic Recorder*, Jan. 15, 1898.

Glennings from Contemporary Literature.

THE PATHOGENIC ACTION OF KALI CHLORICUM ON THE KIDNEYS.

By F. H. Pritchard, M.D., Weaver's Corners, Ohio.

The action of this remedy upon the kidneys, though known, does not seem to have been often tested in homœopathic practice. In the majority of text-books on homœopathic materia medica the pathological basis of the toxic affection is stated to be a catarrhal nephritis. This is possible; for, though it is useful in certain varieties of typical nephritis, the kidney-changes appear to be secondary to important alterations in the blood itself. The characteristic changes, as described by R. Leuzmann (*Ueber einige den Arzt interessierende Nierengifte und die durch dieselben hervorgebrachten Veraenderungen in den Nieren*, Festschrift zur Feier des 50-jährigen Jubilæums des Ver. d. Aerzte des Reg.—Bez. Düsseldorf, p. 147) would lead one to think that, unlike many other drugs, an irritative, inflammatory state it does not produce, but that the function of these organs being to excrete certain discarded materials which arise in the body under the action of the chlorate, and in trying to protect the system from danger by this excretion it becomes overworked, eventually its functions suspended, and thus life is endangered. The substances mentioned result from an injurious influence of the drug upon the red blood-corpuscles. Their hæmoglobin is transformed into methæmoglobin, so that a destruction of the red corpuscles is the consequence. At the same time the blood takes on a peculiar dark-brown color, and loses its property of becoming red on exposure to the air. If death takes place in a short time—a few hours—then no changes are found in the kidneys, except that they are hyperæmic and the glomeruli and the tubuli contorti are distended with peculiar, brown-colored, red corpuscles that are undergoing disintegration.

After some time, however, when these organs have lost their ability to excrete the disintegrated corpuscles, the characteristic changes are observed. The kidneys are enlarged, present a grayish-brown to reddish-brown color; on section not infrequently radiating dark-brown streaks are noticed in the cortex, which may partially extend into the medullary portion. In grave cases the kidney is entirely and uniformly a chocolate-brown in color, so that no radiating streaks are to be seen.

Microscopic examination shows the glomeruli and the tubuli contorti to be filled—especially some time after poisoning—with small, glistening, brownish, globular or irregularly-shaped bodies; these are the broken-down red corpuscles. In intense poisoning cases they are actually baked and pressed together into regular casts, which fill out the tubules. Often they are so compressed that they appear almost homogeneous. Not rarely a number of globules are seen to be arranged together in the tubules like a string of pearls. As a rule, the epithelia themselves are not affected, though, from pressure, the sides pointing towards the lumen of the tubule may be

granularly degenerated. Neither epithelial swelling, turbidity, fatty degeneration, nor desquamation takes place. The urine, as might be expected, is very scanty, of a dirty-brown color, and in its sediment the mentioned broken-down red corpuscles are observed. Spectroscopically, this has been shown to be methæmoglobin. Albumin is also to be detected, yet nothing that would lead one to conclude that an inflammation of the kidney had occurred. If the victim does not perish from the immediate consequences of the poisoning—the destruction of the blood—then death may follow with the symptoms of suspended renal function, from uræmia. In other cases, with increase of the quantity of urine, the accumulations are swept out of the kidneys, and recovery follows.

Kobert (Lehrbuch der Intoxikationen, p. 477, Stuttgart, 1893)^o divides the action of the drug into two varieties: an acute and a subacute. In the former, where poisoning has occurred from ingestion of a large quantity at once, death takes place from immediate destruction of the blood—methæmoglobinæmia; the renal alterations are then but little pronounced. In the subacute form death usually takes place some time after poisoning, when the following phenomena are observed:

1. Grayish-violet spots appear upon the skin, with icteric discoloration, some days before death; methæmoglobin is detected in the blood, the red blood-corpuscles are altered, and there are great dyspnoea and weakness of the heart.

2. There are gastro-intestinal disturbances: violent diarrhoea, obstinate vomiting of blackish-green matters, swelling of the liver and kidneys.

3. The functions of the kidneys are disturbed: there is long-lasting oliguria and anuria. The scanty and turbid urine varies from reddish-brown to a blackish color: it contains methæmoglobin and hæmatin, as well as large quantities of albumin. At first, microscopically, hyaline casts are to be detected, as well as numerous masses of detritus of red blood-corpuscles, in the form of broad and brown casts or of yellowish-brown masses. The chlorate may be discovered in the urine unaltered or reduced to the chloride of potash.

4. Disturbances of the nervous system, with uræmic symptoms, as delirium, confusion of the sensorium, comat., obstinate vomiting, tonic and clonic spasms, and rigidity of the extremities.

Subjectively the patient complains of headache, anorexia, sensitiveness or pain in the region of the stomach, specially on pressure; painfulness of the liver and lumbar region, intense dyspnoea, and a feeling of great prostration and weakness.

In what kidney diseases would this remedy seem to be indicated, homœopathically? First and foremost, in hæmoglobinuria, as that accompanying scarlatina, yellow fever, typhoid fever, malaria and syphilis. It might also be of value in that form following severe burns, exposure to severe cold, or violent muscular exertion, as well as in the paroxysmal form of the disease. In Raynaud's disease there is also a paroxysmal form where the drug might be indicated. But the symptoms most closely correspond to the epidemic hæmoglobinuria of the new-born where the symptom is associated with jaundice, cyanosis and nervous symptoms.

It will possibly be found of value in certain cases of renal insufficiency from overloading of the kidneys through functional insufficiency of another organ, as of the liver, where the urine is dark, scanty and loaded with the products of imperfect metabolism, and presenting the characteristic reddish-brown appearance. In pregnancy, where the kidneys fail and the urine takes on this appearance, it is said to have been found of value. I have seen recorded such a case where the urine cleared up under its use, but I cannot find the report.

Prof. Goodno, *Practice of Medicine*, vol. II., 366, states he has obtained positive results with this drug in hæmoglobinuria, giving it persistently in the third to the sixth decimal. In decomposition of the blood, as in infectious disease, with consequent hæmaturia, he suggests the administration of kali chloricum, classing it with such drugs as lachesis, crocalus and arsenicum.

The mentioned observer, whose text-book is an honor to American medicine, has seen this chlorate prove of service in rapidly-progressive cases of chronic diffuse nephritis, with a high degree of anæmia. The patient is pale, breathless, and has much palpitation. The urine is scanty, highly albuminous, and may contain blood-cells. He then goes on to say that remedy is thoroughly homœopathic to this lesion of the kidneys, but for some reason has never claimed much attention as a remedy for Bright's disease. It often exercises a prompt influence over the amount of albumin and the other evidences of the activity of the lesion. He employs it in triturations from the first to the third decimal. One German writer, in commenting on a case of poisoning by this drug, calls it a true "kidney-poison"—Nierengift.—*Hahnemannian Monthly*, Jan. 1898.

A COMPARATIVE STUDY OF BRYONIA.

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We cannot know anything in its entity, but only as it appears to us, and in relation to other things. This is true of all things and hence it is true of materia medica. We can know one remedy only by its relation to others. We can know the whole subject of materia medica and hold it in our mind only by its relation to the healthy human body.

We cannot escape the burden of this comparative study of remedies, unless, indeed, we adopt the method of the novice backwoods doctor who, having looked over the pathogenesis of *Nux Vomica*, concluded that all varieties of symptoms possible to a human being were included therein. He therefore purchased a large supply of *Nux Vomica* in several potencies and proceeded to practice medicine with this as his sole therapeutical agent. This method of cutting the Gordian knot is unfortunately not allowable. *Bryonia* is a remedy of extensive range of action and naturally it has many analogues,—so many that we shall have time to consider only a limited number of them to-night.

This remedy has certain ameliorations and aggravations peculiar, well-

defined, which run through many of its symptoms, and with which I shall now refresh your memory.

Aggravation from warmth, and in a warm room. True of the headache, the cough, the toothache, the nausea and the general condition. Exception: relief from warm drinks what particular symptom it is, that is relieved by warm drinks, I know not, but it is underscored in Hering's Guiding Symptoms.

Aggravation from touch or pressure. True of the sensitive pit of the stomach, the pleuritic pain in the side, the headache, the toothache, the swollen joints. Exception: the weakness of chest and pain of coughing is relieved by holding sternum with the hands.

Aggravation from motion occurs in many symptoms. In the rheumatic pains in joints and muscles, in the headache, the cough, the pleuritic pains, the vomiting, the toothache and the general condition. Relief from lying on the painful side is a variety of the opposite amelioration.

The prominent symptoms of *Bryonia* are as follows:

Head: Frontal headache of a bursting character, worse from stooping, from motion, even so slight a motion as those of the eyes, from mental exertion; better from sitting motionless, from pressure, from sipping cold water.

Headache with constipation.

Bowels: Offensive pasty stools with burning in anus but more characteristic is constipation; stool dry, black, large, passed with difficulty.

Cough: Dry spasmodic cough worse at night, worse after eating (*Spongia* cough is better from eating or drinking), worse on entering a warm room. The cough aggravates the headache and the stitches in chest.

Stomach: sensation as if stone lay in stomach after eating; pain in the epigastric region on touch: distension of stomach with sensitiveness to pressure; swollen feeling in pit of stomach. With these are associated capricious appetite, ravenous appetite with desire for acids; desires things eagerly but when offered, does not wish them; longs for coffee, longs for wine; excessive thirst,—drinks much at a time without distress,—also sips cold water with relief to the dry lips and tongue, the bitter taste, the headache and the vomiting. Cold water also momentarily relieves the toothache. Vomiting in the morning on awaking, worse from slightest motion.

There are many resemblances here to many remedies. *Belladonna* has a similar headache with similar aggravations; but under *Belladonna* the cerebral excitement is more intense, the senses are more acute, the eye is bright and sparkling, the delirium is raging, the face fiery red. There are more throbbing pains. The *Bryonia* headache throbs only when stooping, coughing, or after violent exertion. The sensorium is dulled, the mind oppressed, the face dull red, the eyes heavy, delirium, if present, is a quiet muttering or talking about the affairs of the day. The *Belladonna* headache is primary, while the *Bryonia* is secondary to the condition of the stomach, liver or bowels. *Belladonna* has obesity. *Bryonia* is indicated in

spare thin persons. Belladonna drinks often but little at a time. Bryonia drinks seldom but much at a time.

Abies Nigra has sensation of stone in pit of stomach, worse from motion, eructations and sensitiveness of pit to clothing, but loss of appetite is most predominant, while Bryonia is apt to have good appetite. Moreover, the headache and liver involvement is lacking.

Ant. Crud. resembles Bryonia in fullness in pit of stomach, with dry lips, nausea and vomiting with white coated tongue; also toothache, aggravated by touch of tongue and general aggravation from heat, but the coating of the Antimonium tongue is characteristic, the toothache is aggravated by cold water, there is loathing of food instead of ravenous appetite. Its ailments are apt to be caused by bathing, by over-eating. Thirst is not marked. Diarrhoea predominates.

Arsenic: The epigastric symptoms resemble those of Bryonia. Arsenic has more prostration, more nausea, greater restlessness. Both have thirst but water does not agree with the Arsenic as it does with the Bryonia patient. The pains of Arsenic drive one to distraction and cause a restless agitation. The pains of Bryonia are peevishly endured and keep the patient very still. Arsenic has loathing of food. Bryonia has craving appetite. Arsenic symptoms (with exception of its headache) are relieved by warmth. Bryonia just the reverse.

Calc. Ostrear: The patient whose acute troubles are cured by Belladonna or Bryonia is very apt to need *Calcarea Ostrearum* as constitutional remedy. Many of its symptoms read like paraphrases of Belladonna or Bryonia symptoms. There are the headache, indigestion, constipation, the load in the stomach common to many remedies. Bryonia has perspiration in general and vertigo on motion. *Calc.*, local perspiration, cold feet with perspiration, vertigo on ascending. Bryonia wants many things but refuses them when offered. *Calcarea* wants nothing but when he begins to eat he relishes the food.

The Bryonia toothache is better from cold. The *Calcarea* toothache is worse from cold air and cold drinks.

Solanum nigrum has symptoms very similar to Bryonia, and I doubt not that Bryonia is often administered when *solanum* would cure more quickly. The headache is very similar but more intense; greatly aggravated by motion. *Solanum* has also the chewing motion of the mouth—going through the motion of mastication without having anything to chew,—and the great thirst for cold water in large quantities. There is also a similar vertigo, worse on rising or on moving the head.

Æsculus Hip. has aching in forehead and vertex, pressure as from a stone in pit of stomach, fullness at the epigastrium, constant dull ache in right lobe of liver, large, hard stool, voided with difficulty, aggravation from motion. These symptoms taken in themselves would fit Bryonia equally as well. *Æsculus*, however, has the rectum and anus as its central point rather than the stomach and liver. Under *Æsculus* it is chiefly the back-ache and the anal symptoms that are aggravated by motion, while Bryonia

has all the symptoms, especially the headache, aggravated by motion. Under *Æsculus* stooping makes the backache worse; under *Bryonia*, the headache.

Rhus Tox has been frequently compared to *Bryonia* from Hahnemann's time down, owing probably to the striking contrast of their ameliorations and aggravations. *Rhus* is worse when at rest, worse at night, worse from cold, worse in damp weather. Perhaps undue importance has been attached to the better-from-motion symptom of *Rhus*. *Veratrum Album*, *Euphorbium*, *Conium*, *Pulsatilla*, *Ferrum*, *Capsicum*, *Rhododendron* and *Lycopodium* all have it and may all therefore be contrasted with *Bryonia*'s worse from motion. *Rhus* has marked restlessness and inclines to diarrhoea. *Bryonia* just the opposite. *Rhus* has nothing of the gastro-hepatic symptoms that are so characteristic of *Bryonia*.

Eupatorium resembles *Bryonia* in many ways. It has intense headache, sore eyeballs, thirst for cold water, constipation and even the dry, hacking cough during which the patient supports the chest with the hands. But under *Bryonia* the perspiration is profuse; under *Eupatorium*, scanty or absent. Again, the *Eupatorium* pains make the patient restless; those of *Bryonia* keep him very still.

Asclepias tuberosa is very similar to *Bryonia* in its pleuritic and chest symptoms, but attention to the following will differentiate the two: Under *Asclepias* lying down relieves the headache and aggravates the pain in chest while under *Bryonia* lying down aggravates the headache and relieves the pain in chest, the latter particularly while lying on painful side. The pains of *Bryonia* are sharp stitches that impede and restrict respiration—*Asclepias* not so.

Ranunculus bulbosus has stitches in the same locality that impede the respiration in a similar manner. The stitches are, however, not so sharp, and as I believe, in the intercostal muscles rather than in the pleura.

Ranunculus bulbosus, like *Nux vomica*, is one of the remedies that removes the bad effects of alcoholic beverages, especially the strong distilled liquors. *Bryonia* cures the unpleasant saburral state in which one may get into by frequent and copious potations of beer. *Ranunculus* has few and unimportant symptoms of the bowels, which constitute a grand distinction from *Bryonia*. *Pulsatilla* might be thought of when *Bryonia* was really indicated, but there are many differences as well as many resemblances. Note the following distinctions:

Bryonia has too profuse menses, too plentiful flow of milk, aggravated from motion.

Pulsatilla too scanty menses and meagre flow of milk, ameliorated by motion.

Under *Bryonia* children wish to be let alone, not carried; under *Pulsatilla* children wish to be carried slowly.

The sensation of numbness in suffering parts peculiar to *Pulsatilla* is not found under *Bryonia*.

As to *Bryonia* and *Nux vomica*, the first has aggravation in the evening:

the second aggravation in the morning. Bryonia is indicated for ailments after bodily exertion and muscular exercise, and *Nux vomica* for effects of mental exertion and lack of exercise.

Bryonia is frequently indicated after *Aconite* and before *Calcarea Ostrea-rum*; also after *Opium* and before *Alumina*, and before and after *Rhus Toxicodendron*. It produces infiltrations into cellular and serous tissues. It does not produce plastic exudations like *Hepar*, *Mercurius* or *Kali Muriaticum*. It is antidoted by any of the above remedies, or by any remedy whose symptoms are very similar to it.—*Medical Visitor*, Jan. 1898.

OUR COUGH REMEDIES.

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In considering the cough remedies of the homœopathic *Materia Medica*, I shall only mention those that are of most frequent use, and which experience has taught are most efficacious in the treatment of the variety of coughs most often met with in ordinary practice. It should be remembered, however, that our armamentarium possesses a great number of remedies that may be curative in coughs presenting uncommon peculiarities. True, these coughs are often cured in a bungling sort of a way by remedies that while not well indicated partially cover the general pathogenesis or rather the general pathological state, according to crude ideas of reasoning. Such cures are never so prompt and perfect as are those brought about by the administration of the well-indicated remedy.

There is no place where crude generalization works so poorly as in the treatment of coughs. It is unfortunate here, as elsewhere, that the repertory is fast falling into disuse, for it is only by a careful study of symptomatology that we can perform creditable cures. It is the physician who fails to appreciate this fact, or who is too careless or too lazy to put it in practice who soon comes to depend upon palliatives in the treatment of coughs, and vies with his allopathic neighbor in prescribing the various compounds and syrups put upon the market by manufacturing chemists, the effectual ingredient of all which is either morphine or codeine and chloroform.

I would be glad to give brief indications for the use of the less commonly used remedies in cough, but their name is legion, and such a course would carry this paper far beyond a desirable length. Then, too, it must be borne in mind that while a remedy for cough is usually selected from the character of the cough and the expectoration, yet this is not always the case, and not infrequently we are led to prescribe, especially the rare cough remedies, on account of some peculiarity or symptom not apparently connected with the cough itself. At all times the concomitant symptoms must have great weight in the selection of the remedy. It is remarkable, however, how often we find that the remedy that covers the cough and expectoration also

covers the associated symptoms. As an illustration take *stannum*. In a great majority of instances where we find the profuse expectoration of *stannum*, we also find the characteristic sense of weakness in the chest. The same holds true of many other remedies, and seems to make more easy the work of an intelligent and conscientious prescriber.

I shall, in a general way, mention remedies in the order of their comparative usefulness, or rather, of their frequency of administration, their pathogenesis being such that they more often correspond to the symptoms of the case, and for that reason are more often curative. Such an arrangement is purely arbitrary, as my opinion on this question may be no better than some other writer who might, on the same grounds, arrange the remedies in a decidedly different order. Many physicians become routinists in the prescribing for coughs, as well as for other conditions. I know of one, who almost invariably prescribes *kali bich.* for cough, regardless of indications. The same physician also always prescribes *gels.* for fever and *merc. cor.* for diarrhœa, and while distinguished in certain lines of medical and surgical work, considers it beneath his dignity to spend any time whatever in consulting symptomatology.

If we would spend more time in the latter occupation there would be less need for the specialist, as homœopathy is just as able to-day, as it has gloriously been in the past, to cure many of the diseases that are now almost immediately sentenced to the speculum and the knife, and that, too, by homœopathic specialists, many of whom have only regard for the fee they expect to receive, and more of whom are ambitious to be accounted as "scientific," according as that word goes in the present age.

Bryonia.—Perhaps this remedy deserves that place, not so much because it is oftenest prescribed for cough, as for the fact that when indicated it usually comes in ahead of other remedies. It is often the first remedy indicated when an acute catarrhal condition is first localizing in the respiratory tract, and a cough is developing, which is usually dry and rough, with a little thin mucous expectoration and accompanied by considerable soreness of the chest. The cough is always worse in a warm room, especially on coming in from the cold air, and is worse from moving about. Bryonia is a remedy most useful after the violent general symptoms of an acute inflammation have begun to subside and localization with product formation is about to take place or has already just occurred. This holds true in other localities, but is especially applicable in respiratory inflammations, whether there be a tracheitis, bronchitis, pneumonia or pleurisy. In the latter the well-known stitching pains of bryonia causes it to be often indicated, and these pains may be present and assist in indicating bryonia when the pleura are not involved.

This drug is unfortunate in being pretty nearly always handicapped in its good work by being prescribed in alternation with some other drug, notably aconite. The stage of usefulness for bryonia only begins when that of aconite *et al.* ends, and on the other hand, that of bryonia ends when that of phosphorus, *et al.* begins. These various drugs follow each other

well, and are complementary, but their alternation is neither scientifically or practically correct.

Phosphorus.—It is altogether likely that, in a general way, phosphorus deserves first place as a cough remedy. As has already been suggested, its sphere of usefulness usually begins after bryonia and similar remedies would cease to be indicated, whether in an advancing catarrhal condition ending in bronchitis, laryngitis, tracheitis or in a pneumonia. Phosphorus is never indicated early, but only after product formation is fully established. In the first-mentioned the cough is dry, caused by tickling in the trachea, some mucous expectoration, and accompanied by soreness, oppression and constriction of the chest, the latter being an important differentiating symptom. The cough is usually worse when the patient lies on the left side, worse from talking, laughing or reading, and contrary to bryonia, is better indoors and worse when going from warm to cold air. In pneumonia phosphorus is indicated where there is a dry cough with bloody mucus, or rust-colored expectoration, with violent oppression or tightness of the chest. It may also be useful in tuberculosis when the hollow, hacking cough is present.

Kali Bichronicum.—This drug is frequently prescribed for and is of great value in subacute and chronic inflammations of the lower air passages, but is never of value in the early stages. The cough is usually dry, deep, rough, hoarse, and accompanied by a difficult, tough, stringy mucous expectoration. Kali is often needed for the hard, deep coughs that prevail after a common cold. While the tightness and constriction of phosphorus are not present, yet there is no element of looseness in the cough itself, wherein it differs from hepar sulphur. The cough is usually brought on by tickling in the trachea or at the bifurcation of the bronchi, and, according to clinical observations, is worse after eating, when undressing, and in the morning on walking, better after getting warm in bed and when exercising. The usefulness of kali in membranous croup, with symptoms characteristic of that disease, had led to its abuse in being empirically prescribed in all forms of croup in all stages, regardless of indications. It is usually only indicated in the later stages and when there is little or no fever.

Hepar Sulphur.—This is the chief remedy for a loose cough. With the looseness there is some rattling, but not to the same extent as in ipecac or tartar emetic, where the air passages are so full of mucus that there is a constant rattling sound during inspiration and expiration, which is not present in hepar. Neither is there the same constant tendency to vomiting of mucus, oppression of breathing and cyanosis. For this reason it is rarely a remedy for whooping cough, but is chiefly indicated in laryngeal and bronchial coughs. It is often a remedy in croup, and was the number three of Stenninghausen's famous trio of croup remedies—aconite, spongia and hepar sulphur, which he prescribed in rotation (not alternation). In croup there is great hoarseness, whistling breathing, and hard, barking cough, accompanied by a rattling of mucus, the latter differentiating from spongia and kali bich., and the absence of a dry, hot skin from aconite, the hepar

patient being usually moist. It follows spongia well, and is often the remedy after spongia has been used. In hepar the cough is often brought on from being uncovered, or any portion of the body becoming cold. It is very characteristic that the hepar patient is very sensitive to cold air and has a tendency to easy and profuse perspiration.

Rumex Crispus.—This remedy is of great value in coughs accompanying acute catarrh of the larynx or bronchi, or from laryngo-tracheal irritation. The chief feature of the drug is that the cough is always produced by tickling in the throat-pit, and has invariably associated with it a raw sensation behind the sternum. Under such circumstances its effects are marvellous. The cough is generally incessant, fatiguing, and is aggravated by pressure, talking, and especially by inspiring cold air and in the evening after lying down.

Ipecac.—This remedy is useful in bronchial coughs, where there is great accumulation of mucus in the air passages, causing rattling respiration, but little expectoration; much wheezing, dyspnea and inclination to vomit. It is often indicated in the capillary bronchitis of children, being similar to tartar emetic, but there is less prostration and tendency to collapse. The cough is usually spasmodic and recurs in paroxysms. The same holds good in whooping cough, where we also find hemorrhage from the nose and mouth, vomiting, loss of breath, face pale or blue, body rigid.

Antimonium Tartaricum.—This drug is very useful in coughs which are accompanied by a great accumulation of mucus in the chest, causing rattling respiration and suffocation even to cyanosis, but with little or no expectoration, relief coming promptly if expectoration occurs. It is the chief remedy in capillary bronchitis, where there is much rattling of mucus in the chest, oppressed breathing, rapid pulse, nausea, vomiting and drowsiness. It is often indicated in whooping cough, croup, asthma, broncho-pneumonia and pleuro-pneumonia, and is frequently required in the ordinary catarrhal conditions and incipient bronchitis.

Stannum.—Stannum is an invaluable remedy when there is an easy, profuse mucous or muco-purulent expectoration, which is usually of greenish color. It is easily differentiated from tartar emetic by the fact that while there is a great accumulation of mucus, it is usually located in the trachea, does not cause any great amount, if any, rattling, and is very easily expectorated. Neither does it cause the cyanotic symptoms of the latter and is not accompanied by nausea and vomiting. An almost ever-present characteristic is a great weakness in the chest. The expectoration of balls of sweetish mucus is also characteristic. It is most often indicated in tracheitis, bronchitis, laryngeal phthisis and phthisis pulmonalis.

Belladonna.—This drug more than any other gives a typical dry cough. It is caused by tickling in the larynx, and is usually worse in the evening after going to bed. There is great dryness in the larynx, even at times causing a husky, hoarse voice, and sometimes threatening suffocation. It is most often indicated in acute, laryngitis or bronchitis, catarrhal croup, spasm of the glottis and whooping cough.

Nux Vomica.—This drug is not as often prescribed for coughs as it deserves. It is valuable in bronchial catarrh, with a dry cough, and accompanied by roughness, rawness and scraping in the chest, thus reminding us of rumex but being less acute in character. Violent, dry, fatiguing cough worse early in the morning. It is quite useful in reflex coughs arising from gastric troubles and mental exertion.

Spongia.—This remedy may be of value in dry, hoarse, barking cough in either children or adults, but its well-known value is in the treatment of croup, where it is often prescribed regardless of indications and when iodine bromine or some other drug might answer a better purpose. It is not indicated when there is high fever and a dry, hot skin, but in cases where this condition is not present or has already been subdued by aconite, a dry, barking croupy cough and anxious, wheezing, whistling sawing respiration still remaining. It is of little value after membranes are formed.

In addition to the remedies considered we should not forget the characteristic nervous coughs of gelsemium, hyoscyamus, ignatia, kali bromatum and other drugs whose indications it is not necessary to give in detail.—*North American Journal of Homœopathy*, January, 1898.

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[NO. 4.]

THE CELEBRATION OF THE 143RD ANNIVERSARY
OF THE HAHNEMANN'S BIRTH-DAY.

THE annual meeting of the Hahnemann Society of India, in celebration of the 143rd birth-day of the Founder of Homœopathy, was held, under the presidency of Dr. Mahendra Lal Sircar, on Sunday, the 10th April at 6-30 P.M., at the Lecture Hall of the Indian Association for the Cultivation of Science, 210, Bow Bazar Street. There was a larger gathering of homœopathic practitioners of the city and its suburbs than in previous years, and there was also a good number of laymen who had faith in the system of Hahnemann. A couple of well-composed songs in Bengali in praise of Hahnemann having been sung to the delight of the audience, the President called upon the Honorary Secretary, Dr. Pratap Chandra Majumdar, to read the report of the last year's anniversary. Dr. Majumdar, before reading the report, congratulated the society and Dr. Sircar, on his recovery from his serious illness, and on the honor which the Calcutta University has done him by conferring upon him its highest degree, the honorary degree of Doctor in its Faculty of Law.

After the reading and confirmation of the Proceedings of the last anniversary, Dr. Sircar addressed the meeting as follows :—

Gentlemen,—I have to announce that there will be a departure this year from the way in which we used to celebrate these anniversaries in India in previous years. On each of these occasions we used to have a paper read on some subject connected with homœopathy followed by discussions on it. This had its advantages, and we had excellent essays and discussions which enlivened the hour. But we are yet so few in number and all of us are so busily engaged that it is not always easy to find a colleague ready to come forward with a paper. Even if there were no such difficulty, there is some disadvantage in this mode of celebration which has inclined us to make a departure from it. When a paper is read before an assembly, the members of that assembly would naturally desire to express their opinions. Such discussions are apt to become tedious and controversial, and are certainly incompatible with the solemnity of the occasion, dedicated to the memory of a man who was the greatest genius in medicine, who was indeed the creator of the science in every sense of the word.

This year at least there is to be no paper. And we shall have to determine what is to be done in future years. To my mind a Hahnemann oration on each of these anniversaries would be suitable and appropriate, as are the Harveian orations on similar occasions. I take this opportunity to suggest that this Society, which meets only once a year for the one purpose of celebrating the birth-day of Hahnemann, should meet oftener,—monthly, or bi-monthly, or at least quarterly—in order that we may exchange our experiences for our mutual benefit, which will lead to the advancement of the cause we all have at heart. The time has arrived when it has become necessary that we should form a united body. For this purpose we shall have to hold a preliminary meeting of which due notice will be given by our worthy Honorary Secretary.

Gentlemen, in the message of greeting that from my bed of illness I sent you when you assembled at the last anniversary, I told you that it was my privilege to learn some important lessons, scientific, moral, and spiritual from my illness, and I promised to lay them before you at this anniversary should it please Providence to spare my life. My life has been spared and

I have once more the pleasure to meet and welcome you here this evening, but though, Gentlemen, our worthy secretary has congratulated me on my looking hale and hearty, I am far yet from having regained even a tenth of my physical strength. Whatever of haleness and heartiness there may be in my outward appearance, is due to your presence and to the occasion for which we have met. I have not been able to muster energy enough to give the lessons I have spoken of an acceptable shape. But even if I had the power I would not have used it for the purpose for reasons I have already given.

On the present occasion, if you will permit me, I will, in a few words, draw your attention to the progress Homœopathy has made. Homœopathy is just a century old. It is a most vital question for all to ask,—Has it made any progress during this time? In one sense it has made no progress, in another it has made more than Old Medicine has in thirty centuries.

There has been no progress in the law of homœopathy, and this I look upon as its greatest glory. The formula, *similia similibus curantur*, does not represent a mere theory which may be altered, amended, or altogether overthrown. It is a law of nature, and as such is coexistent and coeval with finite living beings subject to derangements of their organization and capable of recovering from those derangements. As Dr. Custis well said in his presidential address at the last meeting of the American Institute of Homœopathy: "One hundred years, but no change in our law.

It lives through all time,
Exists through all extent,
Spreads undivided ;
Operates unspent.

One hundred years, but not one remedy by our founder dropped out. One hundred years of growth, of progress, with nothing forgotten, nothing concealed, and nothing for which to apologize. Peculiar symptoms recognized now, as then, as the determining element in the character and relation of disease, and not one prescription affected in the least by the discovery of bacteria, bacilli, or ptomaine. The highest authorities on the habits and lives of these much-feared and over-estimated specks in the universe tell us that healthy blood-serum is their greatest enemy, and that their development and manifestation depends upon the nature

of the soil upon which they fall. What does this mean but that the medical world is about to recognize the fact that disease can be recognized and treated successfully only by the study of the totality of its symptoms."

So you see, Gentlemen, homœopathy as a law of nature has made no progress, as it could not. Is it not the same with gravitation? Has gravitation made any progress? As a law it has made none, as it could not change. It is coeval and coexistent with the material universe. But its discovery has led to marvellous progress in astronomy; it has enabled us to discover new planets and satellites. Similarly the discovery of the homœopathic law has led to immense development and progress of therapeutics; it has enabled us to discover new drugs, and thus armed us to combat diseases old and new, and even the most formidable ones which before its discovery had baffled all human efforts.

Such being the case you may think it a pity that homœopathy has not yet been brought to bear upon the fell disease which is devastating the Western Presidency, and is ominously spreading to other parts of India. At our last anniversary, I learn an interesting paper was read by our colleague, Dr. Aksay Kumar Datta, in which some remedies were suggested, and Dr. Younan, in his concluding presidential remarks, also suggested a few other remedies. As soon as I recovered sufficient strength I deemed it my duty to study our *Materia Medica* from the beginning to the end, and I was gratified to find that there were upwards of a dozen drugs the symptoms of which correspond to those of the plague in its varied manifestations and stages. I embodied the results of my studies in an article on the Therapeutics of Plague which appeared in the *Calcutta Journal of Medicine* for November of last year. The serpent poisons head the list of the remedies suggested from their pathogenetic symptoms.

Without breaking confidence I may say that homœopathy has been, very partially of course, tried and found life-saving in the present epidemic of plague. A distinguished confrère in England wrote to me under date Dec. 13 of last year: "A surgeon-major whom I know has been at _____ for a time and has had very good success with the 'serpent-poisons,' *Crotalus*, *Lachesis*, &c., but unfortunately all his work had to be done *sub rosâ* and cannot be

published as homœopathic treatment, as he is on active service and it might jeopardize his position." Now, Gentlemen, judge for yourselves what disastrous intolerance and cruel persecution this means. Old school, notwithstanding its acknowledged impotence in combating the disease, will not allow any other treatment, however beneficial and carried on by its own members, to be adopted. Even the publication of cases treated with remedial agents unrecognized by it, is feared to be heresy punishable with loss of position!

Homœopathy has made progress in unexpected quarters. You know its infinitesimal dose has continued to be the laughing stock of the old school. But demonstration of the existence of the material of the drug in the infinitesimals is coming from the physicist, the chemist, and even from the biologist. Darwin's researches on the *Drosera Rotundifolia* showed that the whole plant was acted upon by one-thirty-millionth of a grain of phosphate of ammonia.

More recently Carl von Naegeli, the late distinguished botanist, showed that micro-organisms could not live in a solution which contained one-trillionth of corrosive sublimate to the litre. He made the further more remarkable discovery that many substances, hitherto reputed insoluble in water, such as gold, silver, copper, iron, mercury, lead and zinc, could by their mere presence in that liquid render it toxic to micro-organisms, thus showing that these metals do give up their particles to water, and may be rendered more easily soluble in it by the process of trituration with some substance as sugar of milk inaugurated by Hahnemann, and for which the old school has lost no opportunity in heaping ridicule upon his devoted head.

You are no doubt aware that so far back as 1862, soon after the discovery of Spectrum Analysis, Dr. Ozanam of Paris showed that the metals could be detected by this method in their seventh centesimal dilutions. A few years ago Dr. Demaeght of Belgium, applying the electric test, found that sulphuric acid could be detected in its twelfth dilution in pure water. Pure water, as you know, offers such a great resistance to the passage of current electricity, that the most sensitive galvanometer cannot detect any current passed through it. But mixed with sulphuric acid

it becomes a conductor, and this conductivity is manifested up to the sixth centesimal or twelfth decimal dilution.

Quite recently another physical proof of the existence of matter in a highly attenuated state, has been added by Professor Ostwald, of Leipzig. He has, by his researches on the "formation and transformation of solid bodies," demonstrated the existence of several substances in their 9th decimal triturations, and once in the case of Borax in its 17th trituration, though in subsequent experiments he failed with triturations higher than the ninth. His method was simple but very remarkable. It is known that a supersaturated over-cooled solution of a substance is capable of existing as such when carefully protected, but solidifies when the smallest particle of a crystal of the dissolved substance is brought into contact with it. In this way he found that crystallization was induced when no higher than the ninth trituration was used; borax only once offering an exception in favor of a higher trituration. Prof. Ostwald, you will be glad to learn, made his triturations after Hahnemann's method and actually used the triturating machine of the Central Homœopathic Pharmacy of Leipsic. Thus you see, Gentlemen, how confirmation of the rationality of the dose of homœopathy is coming from researches in other departments of science. And this is one of the reasons why I am trying so much for the introduction of scientific knowledge and for the furtherance of scientific research amongst my countrymen.

I cannot conclude without showing you a simple experiment which, you will see, does afford striking analogical evidence of the opposite action of large and small doses. You are all familiar with thermo-electricity, discovered by Prof. Seebeck of Berlin. When two dissimilar metals, either in the shape of wire, rod, or plate, are joined at their extremities, and one of these junctions is heated or cooled, so as to produce a difference of temperature at the two junctions, there will be a current of electricity flowing from one metal to the other across the junction, the current going in a particular direction when the junction is heated, and in the opposite direction when the junction is cooled, the intensity of the current varying up to a certain point with the intensity of the heat. If the temperature is raised above this point, the intensity of the current diminishes till it is reduced to zero.

when a certain higher temperature is reached. When the temperature is raised further the direction of the current is reversed, or what is called the phenomenon of inversion takes place.

Here I have two wires, one of iron and the other of copper. I twist them at one of their extremities, and connect the other extremities with the terminals of this galvanometer. I heat the junction. You see the needle is deflected in a certain direction. I go on applying more and more heat and you see that the deflection becomes more and more. But you see that as I go on applying more and more heat to the junction, a certain point is reached when the deflection becomes stationary, after which it becomes less and less as more and more heat is applied, and a point is reached when the deflection is nil, after which, if the temperature is still further raised, the deflection takes place in the opposite direction. Thus you see, Gentlemen, the direction of the current may be varied at will according to the dose of heat, so to say, that we may apply to the junction. So that, Gentlemen, the opposite actions of large and small doses of medicines are not unique phenomena to be met with only in one department of nature. They have their analogies in other departments also.

Thus you see, Gentlemen, that in adopting homœopathy you have not embraced a system based upon fancy or conjecture, but one which is based upon a law of nature, a system every one point of whose doctrine is receiving analogical or even positive support from other departments of science. We are right, then, in holding these anniversaries in honor of the man who was the founder of the system. You will please observe, Gentlemen, that we celebrate the birth-day, not the day of death, of the founder. For Hahnemann is not dead, but lives. He lives in the beneficent truth he discovered and in the blessings of mankind to whose relief the truth ministers and will minister to the end of the world.

Dr. Younan proposed the vote of thanks to the chair in the following words:—

“ In proposing a vote of thanks to our learned president for the interesting address he has just given us, I believe I am echoing the wish of all here present that the president should lose no time in laying the foundation-stone, as it were, of the proposed homœopathic society. We have met here year after year in the

hope of founding such a society and have been much disappointed. But we trust that to-day the president will fix the date for the preliminary meeting of the society, and I am sure that one and all of us will be heartily glad of it. We must be united to be strong—strong in numbers and in the cause we represent.”

The suggestion of the President that the “preliminary meeting” might be held on Sunday next, the 17th instant, at 6-30 in the afternoon, was agreed to.

REORGANIZATION OF THE HAHNEMANN SOCIETY.

At an extraordinary meeting of the Hahnemann Society held at the rooms of the Indian Association for the Cultivation of Science, on the 17th April 1898, the following resolutions were unanimously carried :

I. That this society should meet once a month instead of once a year as before.

II. That at these monthly meetings, papers should be read by members of the society and discussions held on them.

III. That the usual annual meeting for the celebration of the birth-day of Hahnemann be held on the 10th of April every year as before.

IV. That the society shall have two classes of members : Ordinary Members formed by duly qualified medical men who have graduated at a recognised Medical Institution, and Associate Members formed by practitioners who are not so qualified.

PRIVILEGE OF MEMBERS.

V. That Ordinary Members only will have the privilege of reading papers and holding discussions on them at the meetings of the society and that Associate Members may have the above privilege by permission of the President.

CONSTITUTION OF THE SOCIETY.

VI. That the Society have a President, a Secretary and an Assistant Secretary who is also to be Treasurer. All of them being chosen from among ordinary members.

VII. That an annual subscription of Rs. 5 be paid by ordinary members and Rs. 2 by associate members.

The following gentlemen were then elected office-bearers of the Society :—

President (for life).—Dr. Mahendra Lal Sircar, C.I.E., M.D., D.L.

Secretary.—Dr. Pratap Chandra Majumdar, M.D.

Asst. Secy. & Treasurer.—Dr. Bepin Vihary Chatterjee, M.B.

BRITISH PHILANTHROPY IN REGARD OF PLAGUE PATIENTS IN INDIA.

We are glad to notice the following announcement in the *Monthly Homœopathic Review* for the current month. The part of the country where the Plague is most raging is unfortunately without a single physician who practises homœopathically. One gentleman, who used to practise homœopathy in Bombay, had to leave the city for want of support, just at the time when the epidemic broke out there. It is not a day too early that the hearts of English philanthropists, who are believers in the new system, have been touched in view of the awful mortality that is taking place under the disease. Some benevolent homœopathic physicians of this city were disposed to place their services at the disposal of the plague-stricken patients of Bombay, and would have gone there long ago, but they were afraid that they might not get cases at all to treat, as the majority of the patients are in Isolation Hospitals where the old school has full sway, and the new would be nowhere. As better arrangements are now prevailing in Bombay, as there are several private isolation hospitals where the new system may have fair play, one or more competent homœopathic practitioners from England would be a god-send to the ill-fated city and other plague-stricken parts of the country.

WANTED: A PHYSICIAN TO TREAT THE PLAGUE HOMŒOPATHICALLY.

"On another page we have recorded how much (or, unfortunately, how little) has been done to test the value of homœopathy in the treatment of the plague. Analogy would suggest that it can do better than other methods, though, with a steadily increasing spread of mortality, that is, perhaps, not saying much.

"We understand that some benevolent and influential supporters of homœopathy have expressed a desire that one or more competent observers should be sent out to India to treat the plague on homœopathic principles. Of the desirability of this proposal there can be no two opinions, and could it be carried out, there is little doubt that the world in general, and homœopathic therapeutics in particular, would be placed under an indischargeable debt to the gentlemen who are prepared to give effect to their suggestions by practical support.

"Before any definite steps can be taken towards obtaining facilities for such treatment as to ensure financial support, it is necessary to have suitable candidates in view for the responsible post. We may state that all expenses and a liberal salary are offered to a suitable man. Further information may be obtained from G. A. Cross, Esq., or Dr. Edwin A. Neatby, The London Homœopathic Hospital, Great Ormond Street, W.C."

THE PLAGUE PANIC IN CALCUTTA AND GOVERNMENT.

Notwithstanding that the Plague has been raging in the Western Presidency since August 1896, and notwithstanding its spread to other parts of India in the course of the past and the present year, Bengal, thanks to the energetic measures taken to prevent the importation of the disease, has been singularly free from it and even from suspicion of its occurrence, till exactly the middle of the current month. It is true that cases were alleged to have occurred in the city and suburbs in Oct. 1896, but since their utter disproof as cases of plague by the authoritative declarations of Dr. D. D. Cunningham and of the then Medical Board, Calcutta and the whole of Bengal were free from anxiety on this score, and the inhabitants were pursuing their avocations undisturbed by even a thought of the dreadful devastations that were going on elsewhere.

The occurrence of a case of fever ending in sudden death, with suspicious symptoms in Kapalitola on the 16th instant, put the authorities on the *qui vive*, and case after case of a similar nature, mostly ending fatally, were discovered in the same and other localities, and the reports of these cases in the newspapers as veritable cases of plague, rudely awakened Calcutta society from its too confident repose and threw it into convulsions. With a few exceptions, the editors of newspapers almost lost their heads and went into hysterics, loudly accusing Government of culpable reticence, where reticence was only right and proper, and demanding an authoritative declaration of the true nature of the cases, as if Government had the privilege of inspiration and could arrive at conclusions without the natural processes of laborious experimentation and reasoning.

The tension of feeling and anxiety on the subject became so great that three Hon'ble members of the Bengal Council thought it their duty to put questions at its meeting to-day the 30th inst. Babu Surendra Nath Banerjea and Mr. Turner simply asked to know if the cases were true cases of plague. Babu Narendra Nath Sen went deeper and put the following pertinent questions amongst others: "Has Dr. Haffkine pronounced any opinion as to the nature of the bacilli he may have found in the blood and fluid of the glands of patients that were sent to him? Is Government aware that there are differences of medical opinion as regards the bacteriological diagnosis of plague; that the true bacillus of plague, if there is any, has not yet been positively determined; that some say it is Kitasato's bacillus, others that it is Yersin's, which is the true plague bacillus? Others again have said that there is a third variety which is found in plague cases, and that it is yet uncertain which is the real "pathogenic" bacillus. Under

these circumstances would it not be premature to declare Calcutta to be a plague-stricken city? If Government had acted on the opinion of the late Health Officer of the Calcutta Corporation, Dr. Simpson, Calcutta would long have been declared as such. Would it have been proper to do so?"

The Hon'ble Mr. Risley, in his general reply to all the questions, made the following statement on behalf of Government :

I will answer all the questions relating to plague together. The facts are as follows :—On the night of the 16th April a sudden death from fever, accompanied by swelling of the glands of the left groin, occurred in Kapalitola, a crowded locality near Bow-Bazar. The *post mortem* examination showed symptoms which were regarded by the Inspector-General of Civil Hospitals, the Sanitary Commissioner and the Health Officer of Calcutta as suspicious. On the other hand an experienced local practitioner considered the case to be one of septicæmic fever of the type known to him as not uncommon in Calcutta. The deceased was a native of Eastern Bengal, resident in Calcutta, and there was no evidence whatever of his having had any communication with persons coming from the areas in Bombay and the Panjab which are infected with plague. The house in which he died was thoroughly disinfected ; all persons who had been in contact with him were removed to a segregation camp in Narkooldanga ; and all clothes which might convey infection were burned, compensation being at once paid to the owners. Cultures were made from the important organs and were sent to Monsieur Haffkine at Bombay for bacteriological examination.

On the following day three other persons in Kapalitola were found to be suffering from somewhat similar symptoms. One of these, a boy two years and-a-half old, has since died, and the other two are under observation. Seven other persons who had been in contact with the deceased were discharged after detention for ten days, during which time they showed no suspicious symptoms.

A Dom who assisted at the *post-mortem* examination got accidentally pricked in the finger, and has been dangerously ill, but is now reported to be recovering.

On the 27th April three more cases occurred in the neighbourhood of Kapalitola, one of which was fatal.

On the 24th April four cases, of which three were fatal, occurred in Market Street and Municipal Office Street, and on the same day a man died with suspicious symptoms at 39, Ezra Street. On the 27th four more cases occurred in the same locality, two of which have proved fatal. There were three cases, one fatal, on the 28th ; and two more, one of which died, occurred yesterday.

On the 25th April a bearer in the employ of Messrs. Kilburn and Company died suddenly at 4, Fairlie Place, and on the following day a second bearer of the same firm died in Jaun Bazar.

On the morning of the 28th a man employed in Clive Street was admitted into the contagious ward of the Campbell Hospital with suspicious symptoms, and died the same evening.

On the 27th April four cases were admitted into the Medical College Hospital from Phear's Lane, Chunam Gully and Champatola.

Owing to the admitted existence in Calcutta at all times of the year of a form of fever accompanied by bubonic swellings, which on occasions proves fatal, and in view of the fact that the general death-rate of the town for the week ending the 23rd April was only 31·3 per thousand per annum as compared with 38·9, the mean death-rate of the corresponding period for the last five years, there seemed until yesterday morning to be room for doubt as to the character of the suspicious deaths which have occurred during the

Last fortnight. That, I fear, can now no longer be said. Monsieur Haffkine, whose authority on the subject of plague is undoubted, now reports by telegram: "Cultivation sent from Calcutta produced typical plague involution forms. Identity with plague microbe undoubted." The Lieutenant-Governor has conferred with all the Medical Officers of Government who have seen the suspicious cases, and they are unanimous in pronouncing them to be true plague. As I have already stated, no connexion can be traced between the persons affected, all of whom are residents of Calcutta, and any travellers who have arrived from the areas now infected in the Bombay Presidency and the Panjab. All such travellers are most carefully inspected at Chausa and Chakardharpur.

Thus there were altogether 28 cases in 14 days from the 16th to the 29th inst., of which 7 occurred in Kapalitola, 13 in Market Street, 2 in Fairlie Place, 1 in Ezra Street, 1 in Clive Street, 4 in 3 different places. Of these 4 last no results have been given. Fourteen deaths occurred among the 24 remaining cases, or more than 58 per cent.

It does not appear from the above statement of Mr. Risley that in all the 28 cases there were glandular swellings. No information is given as to how long each patient was suffering before he came under observation, and under what circumstances he got or caught the fever.

It is not a little remarkable that "the Health Officer, after making special inquiry into the point, has been unable to trace any connection between the local cases and the arrivals from infected areas," who are kept under observation. It will be remembered that Dr. Simpson found his first case in a man recently arrived from Bombay, and this case was satisfactorily shown to be a case of simple venereal bubo. But now we have cases which are strongly suspected to be cases of plague and yet none of them could be discovered to have come in contact with men arrived from Bombay or other infected places. But as M. Haffkine has pronounced the cases to be plague, their origin must be traced to infection from some source or other. And what better source could be found than rats? So the responsibility of introducing plague into Calcutta has been transferred from the shoulders of men to those of rats. "Rats, however," says Mr. Risley, "have been found dead in considerable numbers in the press room of the East Indian Railway and in godowns connected with the coasting trade with Bombay, and it is possible that the infection has been imported by these animals." We are, however, not told how the said rats could have migrated to the places where the cases occurred unless we are to believe that they infected their brethren in the said places by some sort of wireless telegraphic influence!

It appears that "cultures were made from the important organs" of only one case, namely, the first case, *after* death; and it was upon an examination of these cultures that M. Haffkine's opinion was based. It will have to be remembered that these cultures

were sent from Calcutta to Bombay, and that they were examined in a laboratory where the antitoxine serum from plague bacilli are perhaps every day being prepared. We do not say for a moment that necessary precautions were not taken to keep the cultures from external contamination, and that an expert like M. Haffkine could make any mistake while conducting the examination. But we are bound to say that, considering the vast commercial and other no less vital interests of the metropolis of British India at stake on the opinion pronounced, a sober scientist should have hesitated before passing that opinion from a single instance. And we are bound to say also that Government should have waited for further proof before accepting that opinion as final.

If Government had not among its numerous medical officers present in Calcutta one single individual competent to make bacteriological examination of plague and other cases, if it had no other person to depend upon in these matters than M. Haffkine, it should have asked the Professor to come down to Calcutta to make examinations on the spot, so that they might be free from all fallacy. How we miss Dr. Cunningham at this juncture!

In reply to the specific question asked by the Hon'ble Narendra Nath Sen, the Hon'ble Mr. Risley remarked: "Finally, I may explain that the third question asked by the Hon'ble Babu Narendra Nath Sen is based upon a misapprehension of the scientific aspects of the question. Only one plague bacillus is known. It was discovered almost simultaneously and independently by Kitasato and Yersin during the Hong-Kong epidemic of 1894. Their discovery has been verified during the present epidemic in India by M. Haffkine, Mr. Hankine, various Medical Officers of the Government of India, the members of the scientific missions sent to Bombay by the Governments of Germany, Austria, Russia, and Egypt, and by other foreign scientific authorities. But this bacillus produces three different forms of plague—simple, septicæmic and pneumonic—according as it attacks different parts of the human system. The bacilli discovered by Dr. Simpson were not plague bacilli at all. They were common atmospheric bacilli, and Dr. Cunningham showed conclusively that they did not come from the blood of the persons supposed to be suffering from plague, but were the result of contamination by air."

Babu Narendra Nath Sen was justified, from his acquaintance with the literature of the subject, in asking the question that he did ask. He would have failed in his duty if he had not done so. It may be true as Mr. Risley said that M. Haffkine, Mr. Hankine, the members of the scientific commissions of various Governments and other scientists, have in a general way confirmed the identity of Kitasato's and Yersin's bacilli. But it is equally true, as we showed by an extract from the *British Medical Journal*

given in our Journal for Nov. last, that Ogata, a countryman of Kitasato, did differentiate the bacilli of the latter from those of Yersin, and did show his inclination to believe in Yersin's bacilli being the pathogenic microbe of Plague. It is also a fact that in plague patients other forms of bacilli than the typical ones described by Kitasato,—forms almost spherical and even chains more or less long,—are not unoften found. In making bacteriological examination of the contents of lymphatic glands and other organs, of the blood, and of the excretions, of plague patients, these various forms have to be borne in mind and we ought to be able to say which form is predominant. Again: The bacilli found in the blood and in the buboes of plague patients are, according to Aoyama, another Japanese authority, *not identical*. The latter differ in form from the former, and stain by Gram's method. According to Dr. Crookshank,—“There is no doubt that the micro-organism which was found in blood is very similar to the bacillus of fowl cholera, and *it is quite possible that the so-called plague bacillus is really identical with the bacillus of hæmorrhagic septicæmia*, and THAT THE REAL NATURE OF THE CONTAGIUM IN BUBONIC PLAGUE IS UNKNOWN.”

From the facts stated above it will be evident that on the part of Babu Narendra Nath Sen there was no misapprehension of the scientific aspects of the subject. We leave our readers to judge on which side the misapprehension lies. Bacteriology is yet in its infancy, and to base the diagnosis of disease on bacteriological evidence alone may be dangerous both positively and negatively. As regards the cases reported by Mr. Risley we are strongly inclined to concur in the opinion of the “experienced local practitioner,” alluded to by Mr. Risley, “who considered the case (the first one at Kapalitola) to be one of septicæmia of a type known to him as not uncommon in Calcutta.” Indeed, we go so far as to say that if the cases reported were cases of bubonic plague then we have had the disease long in our midst, and it is necessary, therefore, to have the bacteriological diagnosis of plague thoroughly revised.

If Government has been hasty in accepting M. Haffkine's bacteriological diagnosis of the cases in Calcutta, what are we to say of its action in taking the Professor's prophylactic serum under its patronage? It is all very good to say that inoculation will be pressed on no body, but to exempt a family if completely inoculated from segregation even if plague attacks a member of it, and to require the uninoculated to undergo segregation, certainly looks like putting a premium on inoculation, and is tantamount to putting a moral if not a physical pressure upon people to adopt what many may be inclined to consider as the lesser of the two evils. His Honor the Lieutenant-Governor's generous and statesman-like assurance, that segregation, if necessary “will be carried out with the strictest regard to the feelings of human

nature," would have proved soothing balm to the people in their present excitement, had it not been accompanied by the exceptional favor shown towards the prophylactic serum.

In previous numbers of this Journal we have exposed the fallacies in Dr. Haffkine's statistics of anti-choleera inoculation. We have no inclination just at present to enter into a critical analysis of the statistics of his prophylactic inoculations against plague. We would simply quote here what one of his warmest advocates, the *Indian Medical Gazette*, speaks of them in its current number: "The danger of drawing too hasty inferences from statistics," says this Journal, "has been demonstrated too often to allow us to overlook it here, and, tempting though Professor Haffkine's first group of figures are, yet we must bear in mind that they are after all only, as it were, negative proofs of the result, and that the loop-holes of fallacy are both obvious and numerous." Very properly it says that, "as an efficient treatment of recognized value plague inoculation has yet to prove itself."

The following extract from the *Lancet* will show how far these so-called prophylactic inoculations are the harmless and innocent things they are described to be. Though the germs are said to have been destroyed by heat in the serum, it has yet to be seen whether these inoculations may not predispose and lead to development of plague in exceptionally susceptible individuals, and in that case how terrible must be their consequences. Are people to be blamed if they fear that the plague, though it was non-existent in Calcutta, has been introduced potentially by the first inoculations performed in the city?

THE SYMPTOMS FOLLOWING INOCULATION FOR PLAGUE WITH M. HAFFKINE'S PROPHYLACTIC FLUID.

As might be expected the symptoms following M. Haffkine's prophylactic inoculation vary considerably in different individuals. There are many symptoms, however, which are more or less common to all. It would be likely also that the chief symptoms would resemble in a very minor degree those of plague itself. There are, however, symptoms in plague which have no representatives, so to speak, among the symptoms following inoculation. The first indications of systemic affection occur within six hours after inoculation and consist of a sensation of chilliness, with headache, a rise of temperature and pulse, and a general feeling of malaise. There are no local symptoms at first beyond perhaps a slight red blush at the site of inoculation. The general symptoms increase and continue generally for two or three days. Vomiting sometimes occurs and occasionally diarrhoea. The temperature seldom rises beyond 103 F., more frequently it is below 102. Weakness is sometimes very marked and the pulse is feeble. Headache is often very severe. Locally an inflammatory infiltration develops which becomes extremely tender. This extreme tenderness is as characteristic after inoculation as that of the enlarged glands in plague. No enlargement of the adjacent lymphatic glands occurs and only very occasionally does suppuration ensue at the site of inoculation. Desquamation of the cuticle over the inflamed area frequently follows. The local symptoms linger for several days after the patient has apparently recovered his usual health,

which is most commonly in from four to eight days. The local and general symptoms are sometimes very slight, whilst at other times they are not only very severe but last perhaps eight days or more and are followed by considerable weakness.

The less frequent symptoms, perhaps depending upon personal idiosyncrasy, are very interesting. The minor complaints are joint pains without any swelling, lasting perhaps a fortnight. There is an erythematous rash more or less all over the body and sometimes a distinct urticaria is seen. No papules or pustules have been observed. A certain amount of anæmia and emaciation occurs in a few people, and some complain that they have never felt well since the inoculation. General weakness, loss of appetite, and constipation for some little time afterwards have been more frequently complained of, and a weakness in the lower extremities has been occasionally observed. A few people seem to develop mental excitement and a feeling of unrest; others become irritable in temper for a week or more. Confusion of ideas, a nasty clammy taste in the month, and a dry cough lasting for about a week are comparatively common. Nursing mothers have been inoculated without any disturbance to the child and pregnant women have not developed any untoward symptoms. The menstrual period seems sometimes to be anticipated, and if the flow has commenced at the time of inoculation it is subsequently increased in quantity. Sexual excitement has been mentioned as having occurred in a few cases.

It is not surprising on comparison with the effects of other toxin feverish attacks to find that certain ailments should be actually improved. Some asthmatic patients seem considerably relieved and even apparently cured for several months by this inoculation. Chronic eczematous conditions, especially in children, appear also to derive some benefit. Some apparently healthy people have even voluntarily stated that they have improved in their general health.

Such are the symptoms following what is practically a mild dose of the toxin developed by the artificial culture of the plague bacillus. The severer symptoms of plague itself are probably explained by the more frequent and larger dosage of the toxin into the general circulation and perhaps to the actual presence of the bacilli in certain parts. The enlargement of the lymphatic glands so characteristic of plague appears to be due to the presence of the bacillus, as it does not occur after inoculation. Blebs on different parts of the body as well as the cellulo-cutaneous infiltration followed by sloughing, both of which are common in plague, have no representative symptoms after inoculation. The so-called pulmonary variety of plague, attended by extensive lobular pneumonia and œdema, with the presence of bacilli in the sputum, is also unrepresented among the symptoms following inoculation. The headache, the irritability, the mental confusion, the chilliness (which in plague itself is a frequently recurring symptom), the vomiting, the joint pains, the weakness, and the general symptoms of adynamic fever which follow inoculation are all prominent symptoms of the disease. The preparation of M. Haffkine's prophylactic fluid, as well as the statistics relating to plague inoculation, have been described elsewhere. It is sufficient to state that the dose injected for adults varies from 2.5 to 5 c.c. and for children 0.1 c.c. is calculated for each year of age. If a definite reaction follows one inoculation it is generally considered sufficient, otherwise a second dose is administered after a week's interval. Re-inoculation is almost certainly required the following year, but with a recurrence of the epidemic a shorter interval is imperative. It is unknown how long the protection lasts. As a second attack of plague has in several cases been known to occur within six months it would be probably safer for those who are more particularly exposed to the contagion to be inoculated every three months.

Lancet, April 2, 1896.

EDITOR'S NOTES.

The Radical Treatment of Hydrocele.

BLOCK (*Rev. de Chir.*, February 2nd, 1898) describes a new operation for the radical cure of hydrocele of the tunica vaginalis. The old method of injection of iodine, he points out, causes a very painful inflammatory reaction, and, in common with the more recent treatment by incision and drainage, necessitates prolonged rest in bed, and does not ensure freedom from relapse. The author makes a free incision into the sac, applies a 3 per cent. solution of carbolic acid to the surface of the exposed testicle, and the whole of the inner surface of the tunica vaginalis, and stuffs the cavity with strips of iodoform gauze. After removal of the gauze on the third or fourth day, the wound in the skin is closed by catgut sutures. Of 18 cases treated by this method, the patients having been seen after intervals between eight months and five years from the date of operation, in one only was a relapse noted. This was a case of very large hydrocele in a man aged 64 years.—*British Medical Journal*, March 12, 1898.

The most feasible method for reforming our Materia Medica.

According to Dr. Van Denburg, "all appeals must be settled in the one highest court, *the method of clinical confirmations*."

The advantages of attempting to purify our present materia medica by this method, in an organized and comprehensive manner, are many and convincing.

First, it would be carrying all disputes at once to the final arbiter, thereby saving much time and labor.

Second, it would invoke but little new machinery, and but slight additional outlay.

Third, it would garner up that most precious of all human things, human experience, which is now being continually neglected and lost.

Fourth, it would, if conducted on a scale broad enough, and in a degree commensurate with its importance, stir up and foster a new interest in the rank and file of the profession, that would insure better work, and an esprit de corps that would be simply invaluable."—*The American Medical Monthly*, February, 1898.

Treatment of Articular Tuberculosis by the Roentgen Rays.

KIRMISSON (*Bull. et Mém. de la Soc. de Chir. de Paris*, Nos. 1-4, 1898) has recently communicated the case of a young man, aged 17, affected with tuberculous arthritis of the wrist. The joint was much swollen measuring over 9 inches in circumference, and the integument on both its dorsal and palmar surfaces presented numerous fistulous openings. The joint was exposed daily to the x rays for fifteen minutes. During this treatment, which was continued for two months and a half, there was a rapid diminution of the fungous swelling and complete cicatrization of the sinuses on the dorsal surface. After an interval of five months, when the patient was

again seen by the author, the patient, though much relieved, was not cured. The subsequent application of an elastic bandage was speedily followed by complete cure, all the sinuses closing, the wrist being reduced to its normal size and regaining all its movements. In the discussion on this communication the good results were attributed mainly to the rest of the limb and its conservative treatment, from which in young subjects greater success may be expected than from any operative measures.—*Brit. Med. Journ.*, March 5, 1898.

Improvements in Microscopy.

Prof. Elmer Gates of Washington, has discovered that by viewing the image produced by one microscope through another microscope or series of microscopes, that he can ultimately attain a magnification of no less than a hundred million diameters.

He has already magnified parts of a diatom 360,000 times and photographed the same. In fact the least leakage of light spoils all the effect, and by the use of a photographic camera in place of the eye these results are best obtained; and only by the most delicate manipulations can these results be brought about.

We quote Prof. Gates as follows: "This ultra-microscopic domain commences where the best present microscope leaves off, and this instrument opens a realm in the study of cellular life of profoundest importance to the human race; with the present microscope we can indeed see that a cell has a body, nucleus, granules, flagellæ, vacuoles, chromative filaments and a foam like structure, but of its minuter anatomy we know nothing. The new instrument promises to go as much further into that unknown province as the present microscope goes beyond the province of the eye."—*Minneapolis Homœopathic Magazine*, Feb. 1898.

A Rapid Method of Identifying the Plague Bacillus.

HANKIN AND LEUMANN (*Centralbl. f. Bakter.*, xxii, 16 and 17) record a rapid means of distinguishing this bacillus with certainty. It has long been known that the organism in old agar cultures gives rise to peculiar involution forms which resemble torulæ in appearance, and cannot be mistaken for any other microbe. Some of these forms having been found in brine from the neighbourhood of an infected village, it occurred to the authors to see if they could not be rapidly produced by growing normal plague bacilli on salted agar. This was found to be the case, and the microbe can be recognised by the formation of these within twenty-four hours of its inoculation on agar containing 2.5 to 3.5 per cent. of salt, the culture being kept at a temperature of 37°C. At first no obvious growth occurs, but at the end of the time mentioned huge spheres and pear-shaped bodies are seen which are quite unmistakable. The exact proportion of salt required varies with the nutrient value of the agar employed. In applying the test to the detection of plague bacilli in the blood of animals dead of the disease, it is best to make a culture first on ordinary agar, and then to subcultivate on salted agar.—*Brit. Med. Journ.*, March 5, 1898.

The Compound Tablet.

Certain of our prominent pharmacies are becoming badly addicted to the compound tablet habit. All sorts of combinations of all sorts of remedies in all sorts of potencies are being boldly recommended as specifics for the various and several ailments to which human flesh is heir. When accused of being loose or unscientific in this respect, our friends the drug men invariably charge it all to the doctors. They claim that there is a demand for this sort of thing, and that they are but struggling to meet it. To a certain extent this is doubtless true—but it is an open question whether, in most instances, the tablet is not the father of the demand instead of *vice versa*. It is a very simple matter to get up these combinations. It is very easy to recommend them as scientific and reliable, and it is not at all difficult to get the careless doctor, the lazy doctor and the overworked doctor to grasp at these straws in the hope of avoiding the wear and tear incident to individual brainwork. As to how often this is done, the conscience of our friend the pharmacist is the only censor. But wherever the blame lies, the fact remains that the compound tablet is far from scientific. Shot-gun homœopathy is a therapeutic monstrosity. It is the most indefensible of all medical methods known to man. It is not flesh, fish, nor fowl. There is not a word to be said in its favor except upon the feeble plea of convenience, and that is indeed a paltry excuse when a human life is hanging in the balance. The combination tablet should be laid away in the churchyard along with all other therapeutic follies. It scarcely deserves even a decent burial.—*Minneapolis Homœopathic Magazine*, Feb. 1898.

Abscess of the Brain.

At a recent meeting of the New York Neurological Society Dr. Peterson showed a specimen which is of considerable interest illustrating a risk in connexion with cerebral abscess which is apt to be overlooked. The risk is that although the abscess may give rise to the most obtrusive symptoms other collections of pus may be present and may be unsuspected. The patient was a man, forty-one years of age, who had struck his head on a rusty spike and fractured his skull. The skull was trephined but the dura mater was left untouched. For two weeks after this the patient remained fairly well. He then gradually developed left hemiplegia with hemianæsthesia. There was neither aphasia nor involvement of the face or tongue. But there was left hemianopia and the fundus was "cloudy." Under the supposition that an abscess was present the skull was opened in the parietal region and an abscess was tapped and drained deep in the substance of the hemisphere. There was rapid and considerable improvement in the paralysis, but a few days later the patient became suddenly worse and died. There was no meningitis, but deep in the right hemisphere an abscess as large as a hen's egg was found. It is not definitely stated that this was a separate abscess from that which was tapped and drained or whether it was the result of re-accumulation in the old cavity. Presumably it was the former.

and the case shows that just as abscess in the brain in connexion with ear disease may be multiple so suppuration arising from another cause may occur in more than one place, so that evacuation of one abscess may not always be sufficient to save the patient's life.—*Lancet*, March 12, 1898.

Prehemiplegic Pain.

FERE has published (*Journ. de Med.* January 10th, 1898) observations from which it would seem that hemiplegia due to cerebral lesions is often preceded by motor or sensory phenomena which may be considered premonitory. The motor derangement consists in a momentary loss of motor activity, awkwardness of movement, some tremor of chorëiform movements. The sensory manifestations consist in feelings of numbness, diminished tactile or thermic sensation, subjective feelings of cold, heat, or tingling. Such phenomena are particularly met with in cases of softening, cerebral growths, and periencephalitis, and not infrequently in hysteria. Such symptoms may precede a cerebral lesion for a long time or by a few hours, and are located exclusively in the area of the lesion, affecting the joints, fibrous tissues or muscular tissues, and may persist long after the establishment of hemiplegia. The author has collected a good number of cases in support of these observations. The sensations are sometimes spontaneous, but become increased by movement, pressure, etc. They may be continuous or intermittent, sometimes disappearing for several days or even weeks. In some cases they cease on the disappearance of hemiplegia. When the pains appear in the joints, there does not seem to be any increased liability to arthropathic change. In other instances the pain may follow the course of the nerve, such as the sciatic. The writer looks upon these symptoms as very important from a clinical point of view, for in the presence of vascular disease their appearance would be of extreme importance as an indication for preventive treatment.—*Brit. Med. Journal*, Feb. 19, 1898.

The Pathology of Addison's Disease.

MAX MOSSE (*Fortschritte der Medicin*, November 1st, 1897) remarks that there are four methods of studying the function of an organ which is not accessible to direct observation during life: (a) The observation of the changes which are induced by extirpation of the organ in animals; (b) clinical observation of cases in which the organ has been destroyed by operation or disease; (c) isolation of the substances which are formed in the organs, and which are either necessary for the body as a whole or are stored up as deleterious waste products to be got rid of; (d) a combination of (b) and (c), a method carried out by the author in the present case of Addison's disease. The case was fatal, and extracts were carefully prepared of the diseased suprarenal capsules, the liver and the spleen. Small quantities of these were injected into animals (white mice and guinea-pigs), with the result that in nearly every case they died within a few

hours, after symptoms of motor paralysis. The toxicity of the extract of the liver was distinctly less than that of the spleen and suprarenals. The author attributes the toxicity of the suprarenals to the caseous material, but attributes the toxicity of the other organs to the presence of a poison in the blood which is normally got rid of by means of the suprarenals. Corresponding doses of liver and spleen extracts from a patient dead of chronic nephritis were quite harmless. It is pointed out that if this view is correct the observations of Szymanowicz and Cybulski on the formation of a nerve and muscle stimulant in the capsules will not alone explain the fatal effects of the destruction of those organs. The author concludes that the capsules have a twofold function, namely, the production of a physiologically active substance and the destruction of a poisonous one. The symptoms and the fatal result of Addison's disease are to be explained by the failure of both these functions.—*British Medical Journal*, Feb. 19, 1898.

The Eyesight of School-Children.

During the last few years the attention of the medical profession and of the public, who are equally interested, has been repeatedly directed to the defects of eyesight prevalent among school-children. This is true not only of our own country, but of America, France, Germany, and probably of most of the other European states. Private investigation as usual has led the way, as witness the efforts in this connexion made by Mr. Brudenell Carter, Mr. Simeon Snell, and others. According to M. Imbert and M. Truc, who have published a paper on the subject in the *Journal de Clinique et de Thérapeutique Infantiles* of Jan. 27th, 1898, the authorities of Montpellier are endeavouring to combat the evil by a process of systematic inspection of the children in the communal schools of that district. This clearly indicates an endeavour to do right. It is of course open to question how far a public authority is entitled to go in relieving the physical necessities of a population. Certainly not, we would say, to the extent of supplanting even by a little the exercise of parental responsibility. As surely, however, does the duty of advice and injunction belong to it in respect of weakness, physical, or mental, which are revealed in the ordinary course of school training. In order to ensure the efficient discharge of this duty there need be no elaborate system of inspection. The existing machinery should suffice. A schoolmaster if observant can without much difficulty tell by a child's attitude in the class whether sight is or is not markedly defective. If supplied with a sheet of well-sized test-types he could quickly ascertain with approximate exactness the normal or abnormal character of his pupils' vision at a distance of twenty feet and could refer any cases of defect to parents to procure appropriate medical treatment. Such auxiliary means as the form and position of school-desks, the lighting of school-rooms, and the type of class-books must be regulated, as they already are, by the common interest of all the scholars. The subject is as wide as it is important, but we are nevertheless of opinion that it is capable of treatment by means which are neither complex nor expensive.—*Lancet*, Feb. 19, 1898.

The True and False Diphtheria Bacillus.

C. Fraenkel (*Berl. klin. Woch.*, December 13th) says that the methods hitherto employed to distinguish these microbes are insufficient. Only a conditional value can be attached to the grouping of bacilli as seen in preparations from pure cultures. The true bacillus is generally long and often swollen at one or both ends, while the pseudo-bacillus is shorter and more uniform in appearance. By the microscope alone it may be impossible to separate these two microbes. Differences in the mode of growth may also fail to settle the question. Agglutination in Gruber's sense may give rise to false conclusions. The diphtheria bacillus usually produces in peptone meat broth acid and the pseudo-bacillus alkaline metabolic products, but this distinction cannot be relied upon. These morphological and cultivation differences are not constant. Owing to time, etc., experiments on animals are not available for this purpose. Even here the pseudo-bacillus is not at all the necessarily harmless microbe to animals as has been stated. The difficulties in distinguishing these microbes have led some authorities to look upon the pseudo-bacillus as really belonging to the diphtheria bacillus group. Fraenkel has confirmed Spronck's experiments in which the local changes sometimes induced by the injection of large quantities of the pseudo-bacillus are not influenced by the diphtheria serum, whereas such influence is seen in lesions due to Locflier's bacillus. Neisser has recently pointed out a sure and rapid method of distinguishing between these two microbes based on the staining properties belonging to the granules present in the diphtheria bacillus. He found that when cover-glass preparations of the diphtheria bacillus cultivated on blood serum at not more than 35° C. for 10 to 20 hours are treated for 1 to 3 secs. with acid methylene blue and then washed and stained with Bismark brown for 3 to 5 secs., the polar granules are stained in the diphtheria bacillus, but not in the pseudo-bacillus. The formula for the methylene blue is methylene blue powder 1 g., alcohol (96 p.c.) 20 c.cm., aqua destil. 950 c.cm., acid. acet. glac. 50 c.cm. Fraenkel has been able to confirm Neisser's observations, and he looks upon the whole process as very simple and rapid. The suspected material is drawn over the surface of the serum preferably in a Petri's dish, and impression specimens are made and stained as above.—*Brit. Med. Journ.*, Jan. 22, 1898.

Aniline Poisoning.

FRANK AND BEYER (*Münch. med. Woch.*, January 19th, 1897) report a case in a woman, aged 52, who took 100 g. of a 5 per cent. solution of aniline oil. The stomach was washed out within a quarter of an hour. The wash water as well as the breath smelt of aniline. In an hour's time she complained of prostration and nausea, and the skin became blue. Later vomiting occurred, and the cyanosis was increased. Somnolence with frequent yawning supervened. The heart and bladder acted involuntarily. The pulse was small, rapid, and occasionally intermittent. The extremities were cold. The pupils, moderately wide, reacted sluggishly to light. The patient was trans-

fused with an alkaline solution. The blood was of a dark brownish-red colour, and coagulated rapidly. There was no marked dyspnoea. Injections of camphor were also used, and wine and coffee administered by the rectum. Ten hours after taking the poison the patient was still somnolent. A warm bath produced improvement, the pulse becoming stronger and the stupor less marked. Fourteen hours later the patient was much better, the cyanosis having diminished, but headache and giddiness persisting. A few hours later she was practically well. Here the symptoms of intoxication developed rapidly, notwithstanding the gastric lavage. The cyanosis appeared in an hour and a half, soon became marked, and was unaccompanied by dyspnoea. This cyanosis must be referred to the development of a blue colouring substance in the body from the aniline. The next most important symptom was the stupor. Vomiting and diarrhoea were less prominent symptoms. The intoxication symptoms disappeared with much rapidity. The beneficial action of the transfusion is difficult of explanation. The warm bath with warm douching was also of value. When chloroform and caustic potash were added to the blood the characteristic smell of phenyliso-nitrite was observable. Another portion of the blood in alkaline solution was shaken up with ether, and the extract obtained, after evaporating the ether, was treated with calcic chloride solution, when a bluish-violet colour appeared. The urine gave similar reactions, but contained no albumen or blood, and did not reduce Fehling's solution. Very little preformed sulphuric acid was found. The presence of paramido-phenol was demonstrated.—*Brit. Med. Journ.*, Feb. 1st, 1898.

The Heat of the Incandescent Electric Lamp.

The incandescent electric lamp is essentially a device which transforms electricity partly into light but mostly into heat. As is well known the carbon filament of the lamp is a substance offering great resistance to the passage of the current and the product of this resistance is light and heat. It is an instance of the translation of one form of energy into another. It may not, however, generally be known that the light produced is but after all only a small percentage of the energy thus manifested—some 5 or 6 per cent. only at the most. This fact is very important, bearing in mind a very common notion that the electric incandescent lamp is free from the heat rays. It is true that the lamp when working is not comparable with a flame or naked light, but at the same time the heat evolved is such as may lead to ignition. We are disposed to emphasise this point because the incandescent electric lamp is used for the purposes of illumination and decoration in shops without any regard to the possibility, nay, probability, of fancy goods being fired which happen to be contiguous. Indeed, so firm is the idea that the incandescent electric lamp is free from heat that it is frequently to be found buried in a mass of easily ignited and highly inflammable material. This is a mistake and care should be exercised with the electric lamp in its application in this connexion, but the risk, of course, is not so great as where naked lights

are employed. We have found by experiment that on immersing a 16-candle power lamp (100 volts pressure) in half a pint of water the water boils within an hour and in proportionately less time when a 32-candle power lamp is substituted. If again the lamp be buried in cotton-wool the wool soon begins to scorch and ultimately to burst into flame. In one experiment which we tried the bursting into flame of the wool was accompanied by a loud report, due to the implosion of the lamp. It clearly appears from this that the incandescent electric lamp cannot be regarded as an unlikely means of starting a serious fire, and shopkeepers, especially those who exhibit highly inflammable fabrics, should know that there is risk in placing such goods too close to the lamp. The lamp in contact with celluloid fires it in less than five minutes and therefore the danger is particularly obvious in the case of toy-shops where electric incandescent lamps are often suspended in the midst of toy celluloid balls.—*Lancet*, March 12, 1898.

Exercise Treatment in Nervous Diseases.

GOLDSCHIEDER (*Deut. med. Woch.*, 1898, Nos. 4 and 5) more especially refers to tabes dorsalis and some other diseases. He maintains that the ataxia is due to a disturbance of the muscular sense. He first learned to use exercise treatment in v. Leyden's clinic; but this method has been subsequently largely extended by Fraenkel. In the so-called paraplegic stage of tabes slight flexions and extensions, etc., of the limbs may be made when the patient is in bed. Help may be given by lightly supporting the thigh or leg. A chair may be inverted over the foot of the bed, and the patient can then exercise himself in touching the cross bars or by putting the feet in between them. The movements are first made with the eyes open and afterwards with closed eyes. Ample periods of rest must be allowed so as not to produce fatigue, otherwise an exhaustion lasting over several days may result. The author confirms Fraenkel's opinion that even in these advanced cases improvement may be produced and the patient may even walk again. Some patients do not improve, and sometimes the exercises have to be given up owing to the pains which are apparently induced by them. In less advanced cases various movements may be practised to improve the gait, and the author figures many pieces of apparatus adapted to this end. A chair on four legs with rollers may be useful. The treatment must be persisted in over long periods of time. The chief point lies in many movements performed without fatigue and with intervals of rest. The author draws attention to the absence of the sense of fatigue. In some patients there is an atony of the muscles, and here electricity and massage must be employed as well. The knee and hip joints may be supported by bandaging. The author then refers to the treatment of intentional tremor by exercises. He looks upon this tremor as closely allied to chorea, and as capable of improvement by exercises. In chorea some improvement may also be produced, but the exercises should be carried out only once in the day or once in two or three days. The

good effects of this treatment in writers' cramp are well recognised. In athetosis also some improvement may be produced by long-continued exercise treatment. In speaking of paresis and muscular atrophies the author draws attention to the value of exercises carried out in a bath, and especially in peripheral neuritis. In neuralgias, etc., exercises, particularly of a passive form, may be useful. In articular pains left after rheumatism, and more especially after contusions, this treatment is valuable. Goldscheider thinks that much more attention should be given to exercise treatment.—*Brit. Med. Jour.* March 5, 1898.

Aboriginal Gratitude.

In his efforts to cure his patients and maintain the honour of his profession nothing is more helpful to a medical man than the knowledge that his labours are appreciated, and spontaneous recognitions of his work atone for much disappointment, brighten the dull routine of duty, and stimulate to fresh endeavours. Though we are able to record frequent examples of the recognition of services rendered by medical men among civilised races it is but seldom that we can refer to an event like that reported by the *Fiji Colonist and Levuka Gazette* of December 4th, 1897. Our antipodean contemporary reports a farewell entertainment or "meke" given by the natives of Levuka and district to their retiring medical officer, Mr. George Fox. Mr. and Mrs. Fox and a few friends were invited to the house of Ratu Vilemoni, the chief native, when "some score or more of the maiden beauties of the district, gaily dressed out in their most imposing *sulus* and wreaths of flowers and *Wa-Kalou*, presented themselves, when a series of *mekes* was performed, ranging from the soft slow cadences which would make such a delightful lullaby to the quick joyous tones which give one the impression that these children of nature are without a care in the world." Ratu Vilemoni then presented Mr. Fox with some mats, some valuable curios of old Fiji, and a dainty *Roi*. The *Fiji Colonist*, in concluding its report, observes: "The invitation was issued spontaneously and it is doubtful if such an honour has ever before been tendered any retiring medical man for the express purpose of signifying the natives' appreciation of his services among them. Commissioners, magistrates, and acting Rokos—yes, by the score, as to one in authority, but to one who has waited upon them and as a recognition of benefits received the occurrence is almost unique and reflects great credit on all who were concerned in providing it." Whatever the exact character of a "meke" the circumstances under which it was given are as creditable to the Fijian natives on the one hand as they are to Mr. Fox on the other. If untutored aborigines can recognise in such a tangible manner the services of the medical man whom Government provides for them, notwithstanding what our poet says of "benefits forgot," the time has not come to despair of the rest of mankind. And in spite of medical aid sweaters and the grudging parsimony which discharges all its obligations with the tardy payment of an oft-rendered account there will never be lacking some who will recognise unselfish per-

formance of duty and lift from the jaded medical man the gloom which, but for them, would settle upon him and stifle some of the most generous impulses of the heart.—*Lancet*, March 5, 1898.

A Case of Plague involving sarcomatous Glands.

An interesting case of plague bubo in sarcomatous glands has lately been under the care of Surgeon-Captain Loumann at the Plague Hospital Sholapur. The invasion of lymphatic glands by plague bacilli is now a well-ascertained fact, but the condition of the glands invaded has not been made the subject of investigation, and it is usually presumed that they present no abnormality or pathogenic condition when this infection takes place. Under this presumption the following case may not be without interest. T. V., a Hindu woman, aged forty-five years, was admitted on 21st November 1897. She presented the usual symptoms of plague—viz. an apathetic yet anxious expression of face, eyelids heavy, pupils dilated, the ocular conjunctivæ suffused, a dull red with lateral streaks of injected vessels, tongue covered with a moist white fur, except at the tip and edges, where it was bright red; pulse, rather low tension and dicrotic; temperature, 101° Fahr. In the left axilla an extremely painful, irregularly-shaped tumour, hard in consistence, about the size of a large orange, was readily detected. The tissues over it were freely movable though slightly oedematous, and this oedema extended for a short distance down the left side. Another tumour was felt above the left clavicle, close to the outer border of the left sterno-mastoid muscle, about the size of a small hen's egg, and softer than the former. Both tumours were freely movable laterally, but attached deeper down. No other glandular enlargement was observed. Patient stated that the tumours were of at least four or five months' duration, and had gradually been increasing in size, but had only become painful during the last three days, the onset of pain being accompanied by violent shivering, headache, and vomiting. She appeared quite intelligent and, on being roused, gave her history consistently. A week after admission, the superficial oedema around the tumours having disappeared and the temperature being normal, it was decided to incise the swellings with a view of evacuating pus which was diagnosed present. The axillary tumours had now become so well defined that it was definitely ascertained to be composed of several smaller ones bound together, presumably lymphatic glands, but of much harder consistence than such enlarged glands when attacked by plague usually are. A vertical three-inch incision was made in the middle of the left axilla, and a small amount of creamy pus let out from a superficial glandular abscess. On cutting deeper, the peculiarly firm consistence of the tumour became apparent, and, relying on the patient's statement, it was determined to remove it *in toto* and examine it afterwards. This was done with some considerable difficulty, as the growth spread around the axillary vessels, and its attachments at that part were both numerous and firm. At the apex of the axilla this tumour was found to be connected with that above the clavicle; but the patient's condition precluding further extension of the operation in this direction, a

separate incision was made over the upper one and 3ii of healthy-looking pus evacuated. The usual dressings were applied. On examination, the tumour had all the naked-eye appearances of an ordinary sarcoma, being firm, pinkish-white, and showing various infiltrating bands. Two of the glands on its axillary surface presented small abscesses. Microscopically, spindle and large round cells were seen invading the lymphatic tissue of the deeper glands, but the structure of the superficial ones was almost entirely lost. On examining a thin scraping with a Zeiss's one-twelfth-inch oil immersion, streptococci and plague bacilli in large numbers were revealed. The patient made a rapid recovery, although the wound suppurated. Neither breast presented any evidence of new growth. The diagnosis thus certainly pointed to a plague infection of sarcomatous glands, and the case is reported for its interest, nothing similar in the course of a somewhat wide experience of plague having been noted by Surgeon-Captain Leumann.—*Practitioner*, March 1898.

CLINICAL RECORD.

Foreign.

A Case of Puerperal Metropéritonitis.

By Dr. T. DWIGHT STOW, M.D.

Mrs. H, a young woman of 26 years, stout, weighing about 160 pounds, of florid complexion, and sanguine temperament, passed through a period of gestation lasting 290 days, (according to her own date). On May 31, 1897, she was delivered of a ten pound boy. Nothing unusual occurred, until the last month of pregnancy, when patient had partial hemiplegia, affecting sensation mainly, but motion lightly, from which attack she recovered within thirty-six hours. Labor began at 12 noon, was natural, terminated at 5 p. m. the same day, and was comparatively easy. The secundines were cast off in due time, and in more than ordinary quantity. The patient had considerable hemorrhage of bright blood. At midnight of June 2, I was summoned to see her. I found her in a very anxious mood, fearful and predicting the time of her death. She was restless from pain and anxiety, with frontal headache, hot skin, a great thirst for cold water—taking half a glass at a time—flushed face, short hurried respiration, nausea with gagging. A sharp chill had preceded the condition at about 11 p. m. In addition, she had much aching soreness, and, when moving in bed, sharp, lancinating pain in the fundus of the uterus, the sensitiveness of which region was so great that she could not bear pressure upon it. The vagina and os-tinæ were hot; the lochia sanious, of putrid odor, and considerably lessened in quantity; pulse 136; temperature 105.

Such was the picture of her condition. I gave *Aconite*, 6th, in water, every hour, until morning, when she was much easier. At 6 p. m., I made the intervals two hours, instead of one hour. I left her at 7 a. m., and called again at 2 p. m., finding her so much improved and in such profuse perspiration that I discontinued the *Aconite*, kept her on water, until 9 in the evening. At that time, her tem-

perature was 102°; pulse 112; less thirst, anxiety and restlessness. She still had soreness on pressure, and a broader area of the peritoneum was tender to touch; the lochia was freer, brighter, and not quite so putrid. She was sensitive to noise, to light, to any jarring of the floor, or the bed. I left *Belladonna* 30, in water, to be given every two or three hours, until the next day, but not so to disturb quiet sleep. During the early morning of June 3, she was quite delirious, and had some tympanitic distension of abdomen and increase in the size of uterus. On June 4, she was considerably better, and during the preceding night, she had slept four hours. From that day, she continued to improve, the process of involution was resumed, and now, is thoroughly convalescent.

This case corroborates others in the past, and will bear favourable comparison with the mixed, slovenly, burdensome treatment of similar cases by the old school.—*Hahnemannian Advocate*, Jan. 15, 1898.

A Case of Chorea Major.

By W. P. WESSELHOEFT, M.D., Boston, Mass.

A. G., a girl of fifteen, brunette, has been suffering from severe chorea for four years. She was brought to my office supported by an attendant and with difficulty reached the house from the carriage. The examination revealed the following:

Has been under treatment by several allopathic physicians constantly for four years, with the exception of a few months during the summer, when the condition is greatly relieved. This relief during warm weather prompted her parents to go to Bermuda, where she was much more comfortable; but on their return to Boston the affection reappeared in a much more aggravated form than ever. She has been confined to her bed most of the time for the last three months.

In May, 1893, she had her first menstruation and it has occurred once in two or three months.

Is very irritable, cross and unreasonable.

Desires certain articles of food with great eagerness, and when brought to her she declines them; if urged to eat, she becomes violent.

Motions of arms and legs are constant, except when asleep, but involuntary movements keep her awake an hour or two after retiring. The movements and jactitation are often so violent that she retains her seat on a chair with difficulty. If asked to grasp with her hands any article lying on the table, she is utterly unable to direct her motions to seize it.

The speech is unintelligible; runs her words together; has very little control over her tongue, and articulates so imperfectly as to be intelligible only to those who are constantly with her.

Deglutition is often difficult; has choked several times when careless in swallowing.

Saliva constantly drools from mouth.

The aggravated attacks have always commenced in the shoulders, going later on to the arms and then to the hands.

She frequently loses all power to support herself on her legs and has had many falls.

Great exhaustion from the least bodily effort.

The allopathic treatment has been mainly Fowler's solution of Arsenic, beginning with drop doses three times a day and gradually rising to sixteen drops three times a day; Bromide of Potassium at night, or a five grain tablet of Sulphonal, to induce artificial sleep.

The long continued use of Arsenic during the last year brought rash all over her body, accompanied by intense heat and intolerable itching; this drug was therefore discontinued and increased doses of Bromide of Potassium substituted with occasional doses of Strychna and Quinine.

On account of the mental symptoms I selected *Cina* and gave one dose dry.

Report a week later: No change in physical or mental symptoms. Her neck is so weak she can scarcely hold up her head; tongue thick and heavy; is afraid of ghosts at night and must have light and company. *Stramoniun c.m.* in water morning and evening for two days.

Report a week later: Menstruation appeared only ten days late, but is worse in every other respect. *S. L.*

Report a week later: No improvement; stumbles and falls; swallowing has become more difficult, especially for fluids; speech is so thick that no one understands her; tongue is very heavy; much salivation and drooling, with frequent efforts to swallow saliva. *Causticum c.m.*, one dose.

Report a week later: For the last two days some improvement is perceptible in swallowing; the right hand and arm under better control. *S. L.*

Report a week later: Menstruation appeared on time; continued improvement in walking and swallowing; speech quite intelligible. *S. L.*

Report two weeks later: Walks quite well into my office. Speaks much more plainly; recites a verse of poetry slowly and distinctly. *S. L.*

Report a year later: She has been perfectly well during the year; menstruation regular; not the slightest return of choreic motions and looks the picture of health.

Nearly another year has passed, and the health of the girl is firmly established.

The homeopathic treatment of this case commenced in February and the patient was discharged as cured the following May.

From 1891 to 1895 she had been unmercifully drugged with Arsenic, Bromide of Potassium, Strychna and Quinine, therefore she was almost constantly under the influence of one or more unsuitable drugs.

This cure with a high potency of *Causticum*, in single dose, may be adjudged by our scientists as belonging to a realm of the mystical and thrown aside with contempt. Those observers among us, however, who have seen many similar results from the *properly selected remedy* in its highest attenuations well know that such cures are possible only with dynamizations, in which no material substances can be discerned by the scales, chemical analysis, microscope or spectroscope any more than similar examinations of the nerve tissues affected would reveal structural changes by putting them to the same tests. Post-mortem examinations in these cases have revealed to the pathologist practically nothing, and such are not always conclusive evidence of what really exists in organs and tissues during life.—*Journal of Homoeopathy*, February, 1898.

gleanings from Contemporary Literature.

INFLUENZA : AN ESSAY.

By JOHN M'LACHLAN, M.D., B. Sc., Edin. ; F.R.C.S. Eng.

DEFINITION.—A continued fever, occurring in widely extended epidemics, and due to a specific cause. It is characterised by early catarrh of the mucous membrane of the respiratory tract, and, in many cases, also of the digestive tract; by quickly on-coming debility out of proportion to the intensity of the fever and the catarrhal processes; and by the serious nervous symptoms. There is a strong tendency to inflammatory complications, especially of the lungs; uncomplicated cases are rarely fatal except in feeble and aged persons. One attack does not confer immunity from the disease in future epidemics.

Such is the usual definition, though it seems to me that influenza partakes of the characters of the *malarial* rather than of the continued fevers. It may be described as a miasmatic-contagious fever.

La grippe is from the Polish *chrypka* (Raucedo); some, however, think that it is derived from *agripper* (to seize).

Influenza is of Italian derivation. It is said that the disease received this name because it was attributed to the "influence" of the stars, or from a secondary signification of the word indicating something fluid, transient or fashionable.

HISTORICAL.—It is supposed to be referred to by Hippocrates, though he does not give an exact description. An outbreak in the Athenian army in Sicily (415 B.C.), recorded by Diodorus Siculus, has been *supposed* to be influenza. As early as the ninth century several epidemics of catarrhal fever, Italian fever, and the like were recorded. In the year 872 A.D. a cough, which spread like the plague, was recorded. In 876 there appeared in Italy a similar epidemic, which spread rapidly over all Europe, even affecting dogs and birds. In 976, Germany and all France suffered from a fever of which the chief symptom was cough. Two centuries later (1178) a widespread malady, of which the symptoms were chiefly catarrhal, raged in Europe. A disease, resembling influenza in its symptoms, is alluded to in early Gaelic manuscripts under the name of *creatan* (*creat*, the chest). The disease is also described in an Irish manuscript of the fifteenth century, under the name of *fuacht* and *slaodan*.

The first epidemic that prevailed in the British Isles, of which any accurate description remains, is that of the year 1510. The disease came from Malta, and invaded first Sicily, then Italy, Spain and Portugal, whence it crossed the Alps into Hungary and Germany as far as the Baltic Sea, extending westward into France and Britain. It is said that not a single family, and scarce a person escaped it. It was attended by "a grievous pain in the head, heaviness, difficulty of breathing, hoarseness, loss of strength and appetite, restlessness, retchings from a terrible tearing cough. Presently succeeded a chilliness, and so violent a cough, that many were in danger

of suffocation. The first day it was without spitting ; but about the seventh or eighth day much viscid phlegm was spit up. Others (through fever) spat only water and froth. When they began to spit, cough and shortness of breath were easier. None died except some children. In some it went off with a looseness ; in others by sweating. Bleeding and purging did hurt."

In 1557 we find another epidemic. It started westward from Asia, spread over Europe and then crossed the Atlantic to America—in fact it circumnavigated the globe. It broke out in England after a very rainy season, when there was great scarcity of corn, in the month of September. It is thus described, "Presently there were many catarrhs, quickly followed by a most severe cough, pain in the side, difficulty of breathing, and a fever. The pain was neither violent nor pricking, but mild. The third day they expectorated freely. The sixth, seventh, or at the farthest the eighth day all who had that pain of the side, died ; but such as were bled on the first or second day, recovered on the fourth or fifth ; but bleeding on the last two days did no service. . . . Some, but very few, had continual fevers along with it ; many had double tertians ; others simple, slight intermittent. All were worse by night than by day ; such as recovered were long valetudinary, had a weak stomach and hypped." Thousands were attacked at the same moment. It was extremely fatal. In Mantua Carpentaria, a small town near Madrid, it broke out in August and so fatal was the blood-letting and purging which constituted the treatment at first, that of the 2,000 persons who were bled, all died.

In 1580 a great epidemic of influenza spread from the south-east toward the north-west over Asia, Africa, and Europe, and spread to England. Concerning it Dr. Short remarks "few died except those that were let blood of, or had unsound viscera." Zuelzger informs us that the victims of this epidemic in the "Eternal City" were not less than 9,000, and that Madrid was almost depopulated by it. This high mortality has been attributed to the bloodletting practised in the treatment of the disease. There was usually *great sweating* at the end of the attack, and this may have given rise to the name "sweating sickness." The plague, measles, and small-pox prevailed also during the year 1580.

After a short rest the disease reappeared in Germany in 1591, and from this date up to the year 1675 the epidemics were frequent. Two great men lived about this date viz. :—Willis and Sydenham—the former describes the 1658 epidemic, the latter that of 1675. About this period, too, the disease began to be known as "influenza," the "influence" of the stars suggested itself, in connection with its sudden appearance and wide distribution, to the minds of the physicians of this date. Willis writes that "about the end of April (1658) suddenly a distemper arose, as if sent by some blast of the stars, which laid hold on very many together ; that in some towns, in the space of a week, above 1,000 people fell sick together."

Epidemics are recorded in Great Britain and Europe in 1668, 1693, and 1709. In 1729-30 a widespread epidemic swept over Europe. In five

months it spread over Russia, Poland, Germany, Sweden and Denmark. In Vienna 60,000 persons fell ill of it. *Rains in the limbs* and fever marked its onset; catarrh, oppression, hoarseness and cough followed. A petechial eruption was observed in some instances, between the fourth and seventh days. Zuelzer suggests that this may have been "spotted fever." Copious sweating was often noted as well as nose-bleeding and bilious stools.

Two years later (1732-33) an epidemic starting from Saxony spread through many Continental towns and invaded Great Britain in the month of December. In Scotland at this time three forms of the disease were described, viz., 1. the cephalic, 2. the thoracic, 3. the abdominal. This epidemic may be said to have lasted four or five years. Concerning this epidemic John Huxham, of Plymouth, writes:—"About this time a disease invaded these parts which was the most completely epidemic of any I remember to have met with; not a house was free from it; the beggar's hut and the nobleman's palace were alike subject to its attacks, scarce a person escaping either in town or country; old and young, strong and infirm, shared the same fate." The epidemic reached Plymouth on February 10th, which was on a Saturday, and that day numbers were suddenly seized; the next day multitudes were taken ill, and by the 18th or 20th of March scarcely any one had escaped it.

During the next 50 years or so some six or eight epidemics are recorded, generally mild in nature, though widely spread. In 1762, for example, in Germany nine-tenths of the population were attacked by the disease. Noah Webster found influenza prevalent in North America in 1781, and in 1782 one of the most remarkable epidemics of this disease appeared in Europe. It came from the "purple East," from Asia into Russia, and spread over Sweden, Germany, Holland, and France, Italy, Spain and Portugal. The crews of Dutch and English ships were taken ill with the disease upon the high seas. In Vienna three-fourths of the population fell ill of it with such suddenness that it got here, for the first time, its name "*Blitz-katarrh*." Many outbreaks took place in Europe and America during the years 1788-90. Warren, of Boston, describes one attack in a letter to Lettsom, dated May 30th, 1790, wherein he records that George Washington had a severe and dangerous attack, but was then recovering. Other epidemics occurred in 1795, 1797 and 1798, continuing to prevail till 1803. In 1830 began a series of epidemics remarkable for their wide diffusion and the rapid succession with which they followed one upon another. The disease began in China, swept into Russia, then through various Continental cities, and in June, 1831, it invaded England. After this there was a brief period of repose, but in December, 1837, influenza reappeared, and first, as so often before, in Russia. In London almost the whole population was attacked, and the mortality was enormous. Again, in 1847, a great epidemic occurred; it prevailed in London for six months, and one-fourth of the entire population were affected.

No well-marked widespread epidemic occurred after that of 1847-48 until 1889. This epidemic seemed to start in Central Asia and then spread to

St. Petersburg about the middle of October, and reached Great Britain about the end of December. From that date until the present time it seems to have been with us off and on ever since. In 1889 London was the chief centre of the disease; Hull in 1891. During the winter of 1891-92 influenza prevailed as an epidemic in every civilised country and in every quarter of the globe.

CLINICAL VARIETIES.—The clinical divisions of to-day are essentially the same as those adopted by the Scotch Physicians in 1732.

1. *Catarrhal*, affecting the respiratory tract and the parts in immediate connection with it.

2. *Gastric*, marked by sudden onset of vomiting and diarrhoea.

3. *Nervous*, marked by severe headache and backache, and great depression.

SYMPTOMS.—A few of the more important *symptoms* may be noted. The fever is usually moderate, though at times it may reach a high grade; there are frequently chilly sensations followed by flushes of heat, in many cases attended by profuse sweats ("sweating sickness"). In connection with the catarrhal form the cough is often one of the most distressing and obstinate symptoms; it is spasmodic in character, and in some of the older epidemics was confounded with whooping cough. It is apt to be worse toward evening and at night—as I know from bitter personal experience. It gives rise to pain and soreness in the muscles of respiration. In many epidemics the cough is not a prominent symptom, though it seems to be a marked feature of the present epidemic in Oxford. Another remarkable symptom is the *dyspnoea*. I do not refer to that dyspnoea which accompanies bronchitis, capillary or otherwise, but to that met with where there is no discoverable lung lesion. It is most probably due to some interference with the function of the vagus at its root, i.e., of nervous origin.

There is, however, another possibility. We know that impulses are constantly passing up the vagus to stimulate the inspiratory centre; these impulses are caused either by the state of the air in the air vesicles of the lung acting on the peripheral terminations of the vagus, or else by the composition of the blood in the capillary network surrounding these vesicles. Some eight or ten years ago I wrote a thesis suggesting that the comparatively large lymph-vascular spaces of the lungs were the incubating ground for the microbes which were supposed to be the cause of the specific infective fevers. In the beginning of 1892 a bacillus previously unknown to bacteriologists, was discovered by Pfeiffer, and has been asserted to be the specific exciting cause of influenza. Solid particles in the air we know very easily gain access to the lymph-vascular channels through the "stomata" in the endothelial lining of the vesicles. It may be therefore that the bacilli (supposing all this to be true) during their incubation produce some material that has the power of benumbing the peripheral terminations of the vagus, and thus give rise to the dyspnoea, from the loss of the reflex stimulation to the inspiratory centre. One might associate with this paresis of the vagus, the benumbing of other nerves, e.g. those of taste and smell, and hence the temporary loss of these special senses.

Chest pains, stitches in the side (not pleuritic) frequent sneezing, loss of the sense of smell and of taste, attend the development of the general catarrhal manifestations. In connection with the *nervous system* we note the early, rapid, and great prostration of muscular strength: in many epidemics this is one of the most remarkable features. The *headache* is often, no doubt, catarrhal in nature, but in many cases it has a far deeper origin, and is often accompanied with stiffness of the neck muscles, with cutaneous hyperæsthesia of head and neck.

Pains in the limbs are common—sore and bruised sensations, dragging and boring in the loins and calves, &c. Pains in the chest (pleurodynia) are common, as well as pains in the throat and nape of neck. Great *hebetude* and *torpor* have marked some epidemics. That of 1712 was called the “sleepy sickness,” by reason of the prevalence of these symptoms.

DIAGNOSIS.—This is not as a rule difficult. The march of the epidemic, the number of persons attacked, the prominence of the nervous symptoms, the rapidly developed debility and the character of the cough, usually severe out of proportion to the physical signs, distinguish it from all other epidemic diseases. It has to be distinguished from the “simple cold” or non-specific catarrh. Some cases, too, bear a strong resemblance to beginning enteric fever, but influenza lacks the temperature-curve, the usually rapid pulse, the splenic enlargement, and the eruption of enteric fever, and the progress of the disease will in a few days clear up the most doubtful cases.

TREATMENT.—At this point we necessarily and decidedly part company with our friends, the allopaths. My own firm conviction, from long and extended observation, is that the allopathic methods of treatment are far more dangerous to life than the disease itself. Nor is the reason far to seek. The allopathic policy is one of suppression and concentrated attack upon single symptoms—symptom treatment, in fact, in its most violent and fatal form. Is the fever high? Then it must be brought down *at any cost*, shutting his eyes to the fact that it is a mere symptom, and that to forcibly bring it down is equivalent to screwing down the safety-valve of a steam engine, while the fire, or source of the fever, is left untouched, with the result that something else gives way—some more vital organ is attacked. The same policy is pursued with other outstanding, isolated, single symptoms. Is the catarrh troublesome? Then it must be treated specially and dried up, with the result that the disease centres upon some more vital part of the respiratory system; and so on through the long and wearisome list of single symptoms. Yet from their tower of scientific straw, plastered and painted to look like granite, they sneer at us because, *so they say*, we treat symptoms, and in thus judging us they condemn themselves, for they who judge practise the same things, only more so. One is forcibly reminded here of a parable concerning a beam and a mote. But *we do not treat symptoms*; we merely make use of them as a traveller makes use of milestones and finger-posts, hills, trees, or other topographical peculiarities of the country through which he passes, in order that he may know his exact whereabouts, and as guides to lead him to his desired destination. The

difference between these two modes of using symptoms is as great as it is possible to be.

In absence of homœopathic treatment during an attack of influenza the best thing for the patient to do is to go to bed, between blankets if the muscular pains are severe, take light liquid nourishment, *e.g.*, hot milk diluted one half with barley water ; if the cough is severe, dry and spasmodic, then set a bronchitis kettle going in his room to keep the air moderately moist. For the rest avoid all allopathic drugs, and take no thought for the temperature or anything else. I suppose this is all too simple and easy for our allopathic brethren to be content with, they must do something more than that.

"Folk maun do *something* for their bread,

An' sae maun death."

The above may be regarded as the *general treatment of influenza*, and which may be practised alike by homœopath and allopath.

We now come to the *specific medicinal treatment*. Do not misunderstand me ; there is no *one specific* for influenza, or any other disease, nor in the nature of things can there ever be. What we have to do is to find and apply the specific remedy for each individual case as it presents itself, though, as in all epidemic diseases, there will most probably be one or two medicines more frequently indicated than others. I will now name a few of the medicines which I have found more or less useful in the various epidemics since 1890, giving the indications which seem to me (rightly or wrongly) to warrant their use in this special disease.

Aconite.—In discussing the claims of this medicine to a place in the therapeutics of influenza, I would first direct attention to Hahnemann's introduction in his *Materia Medica Pura*. There is one group of symptoms so characteristic of aconite that Hahnemann said : "Aconite should not be given in any case which does not present a similar group of symptoms." These are the symptoms of the *mind and disposition*, viz. : "Restlessness, anxiety and uneasiness of *mind and body*, causing tossing and sighing and frequent change of posture ; forebodings, anticipations of evil, anguish of mind, dread of death, and even distinct anticipations of its occurrence."

Now aconite does not seem to have any effect on organic substance—does not produce any marked or characteristic change in the tissues or fluids of the body, and it cannot therefore in itself be sufficient to carry a patient safely through a complete course of pure acute inflammation of any organ or system. The only modification to the above statement is in the case of measles, where so far as my experience goes, aconite is usually in itself quite competent to do all that is needed to be done, and I rarely give measles cases any other medicine.

In the action of aconite that localisation is wanting which is the essential feature of these inflammations. Its *great* use in such cases is in the very early stage of the inflammation, *i.e.*, in the stage of *general arterial excitement*, which precedes its localisation in any one organ or tissue, and

therefore even *before* the "active hyperæmia" stage and long before the stage of exudation. It must never be given merely to "subdue the fever," and then some other remedy added "to meet the case;" nor is it to be alternated with other drugs for the purpose of "controlling fever." If the fever be such as to require aconite, then no other drug is needed, and if other drugs seem indicated one should be sought which meets the fever as well, for each drug has a fever after his kind.

There is no resemblance in the pathogenetic symptoms of aconite to the features of any dyscrasia, and for this reason it can never be required in any of the miasmatic fevers or dyscratic diseases—save perhaps as a rare and temporary intercurrent in some complication, or where the group of symptoms of the mind and disposition are present. Its action bears no resemblance to that of any poison, such as that which produces typhus or typhoid, intermittent or remittent or continued fevers. Our allopathic friends even have discovered that aconite is "good for fever," and they have tried it in such fevers as typhoid with, I need hardly say, no beneficial result on the death rate of that disease. Some of our own men, with a total misunderstanding of the essential inner nature of the pathogenesis of aconite, and led away by a few unimportant and superficial similarities, have even recommended its use in "ulcerative endocarditis!"

What then is its use in an epidemic of influenza? It can hardly be of use in *genuine* influenza; but it is of great use in those cases where one is in doubt whether the symptoms manifested are the result of a *simple chill* or to the specific poison of influenza. A few doses of acon. 30 will speedily banish all doubt; for if the case is the result of a simple chill and be taken sufficiently early acon. will be all sufficient to effect a cure, but if due to the poison of influenza it will have no beneficial effect and some other remedy will have to be given.

Gelsemium. In the earlier epidemics of the present series—from about 1889 to 1892—gelsem. and the somewhat similar remedy, baptisia tinct. were very frequently required, and occasionally eupator. perf. The difference between gelsem. and baptisia is chiefly one of degree, the former being the milder acting of the two, baptisia being the more deeply acting, and being, as it were, an advanced gelsem. Both have intense muscular soreness and prostration, both have drowsiness and nervous excitement with prostration, and both have an afternoon exacerbation of fever. In gelsem. we have the suffused redness of the face, causing a semi-intoxicated look, with general mental torpor and thick slow speech, not so much due to the mental torpor (as in baptisia) but rather to the depressing effects on the motor nerves. I have always regarded the intense occipital headache beginning in the nape of the neck and cervical spine and spreading over the head as a special indication for gelsem. as opposed to baptisia; this headache is often accompanied by stiff neck. The patient answers questions either slowly or imperfectly, as if all the functions of the brain were blunted—like a person well under the influence of liquor.

It is possible that gelsem. would have been the remedy also in some of

the epidemics of the past when many of the cases were supposed to resemble "spotted fever" *e.g.*, in the epidemics of 1729-30 where we find such symptoms as great pains in the limbs, with fever, drowsiness, petechial eruptions between the 4th and 7th days, copious sweats, bilious stools, &c.

The gelsem. fever seems to be remittent or intermittent in its type. I believe also when we meet with cases of influenza in children, other things being equal, gelsem. is a remedy likely to be very useful, as it is generally in the remitting types of fever in children. The child is drowsy, with suffused redness of the face, is peevish and irritable when aroused, but this is quite different to the mental restlessness of aconite.

Baptisia tinctoria.—Much that I have written about gelsem. applies with equal, and even greater, force to baptisia—the fever, the drowsiness, the torpid semicomatose conditions of the brain, the uniformly suffused red besotted face, the intoxicated look, the intense muscular soreness and prostration, the restlessness, *because the parts rested on feel sore and bruised, and the bed also feels as if it were too hard*, and hence the patient moves often in his attempts to find a soft place (in this latter respect it resembles arnica.) It is useful in those cases also which seem at their outset to have a close resemblance to "typhoid fever," or perhaps I ought to say the "typhoid condition," as well as those cases in which the peculiar form of dyspnoea above mentioned occurs.

Eupatorium perfoliatum ("Thoroughwort" or "Boneset.") This medicine is useful in cases where the bone pains are specially prominent—intense aching in the limbs and elsewhere as though every bone in the body was being broken. In such cases we have constant change of position by the patient *even though the pains are not worse by repose*; he complains of a bruised, broken feeling all over the body. Both this remedy and baptis. have marked soreness of the eyeballs. I have not had occasion to use eupator. perf. a great deal, though one did meet with appropriate cases occasionally in the earlier epidemics of this series, and the present type of influenza seems also to tend in that direction.

Natrum muriaticum.—This very useful medicine is to be kept in mind for those cases where the loss of taste and smell accompany the catarrh (compare pula.), together with hydroa or "cold sores" on the lips and cracks at the angles of the mouth. It will be still further indicated if the patient has been dosed with quinine, ammoniated or otherwise.

Arsenicum.—This is a remedy of great value in the aged and in children and especially in the catarrhal form of the disease when we meet with the characteristic prostration and weakness, with its sudden onset and rapid advance, with burning heat and unquenchable thirst and restlessness. Further it is of great use in those cases where the gastro-intestinal irritation is a marked feature, giving rise to diarrhoea, and more especially if the diarrhoea should be brownish or coffee-coloured and provoked by every attempt to eat or drink. We are taught in a general way that arsen. should not be given too soon in a disease lest we increase the downward tendency (*e.g.*, in typhoid fever), and that rhus. tox. may with advantage precede it.

But, as in most cases, there is an exception to the rule, and that is in gastro-enteric inflammations, as in the cases now under consideration arsen. is often called for at the very beginning of the case, and nothing but benefit follows its administration when properly indicated. The restlessness is one of the characteristic indications for arsen. ; the patient cannot rest in any place, changes his position continually, and that too even though he is fatigued by so doing. The period of general aggravation is from 1 to 3 o'clock a.m.

There is at first sight a considerable likeness between acon. and arsen., viz. : the restlessness, full bounding pulse, great thirst, hot dry skin, anxiety and fear of death ; but acon., as we have seen, has practically no effect on the tissues or fluids of the body, whereas arsen. *affects both profoundly.*

Arsenicum iodatum.—This is a remedy I have not used much, chiefly because the provings are so meagre. It is said, however, to be specially useful, and should therefore be kept in mind. In a general way the indications for its use (chiefly *clinical*, I believe) are the same as those of the oxide, but it is to be preferred when the symptoms indicating arsen. occur in marked strumous constitutions. It is stated to be specially useful for influenza in horses, as in 1880, when there was an epidemic of influenza affecting horses chiefly, in Canada, and the United States, east of the Mississippi river.

Rhus tox. should not be forgotten, as it may occasionally be useful. It has the well known restlessness, which compels the patient to toss about, is worse on first moving but better from continued motion ; it compels him to toss about in bed, and he is *better for a short time* in each new position, but very soon he has to change again. This tossing is not, like arnica and baptisia, because the bed feels hard but because of the tearing pains in the muscles and fasciæ. There may be copious coryza with sneezing and dry cough, the cough being worse from evening until midnight, and excited by cold drinks.

Arnica mont. is occasionally useful. Like the others, it has a restlessness. In this case the patient may be kept awake till 3 o'clock a.m. by heat, restlessness, and constant desire to change position, the bed feels too hard, and so he moves often in order to find a soft spot. The patient at the same time may be drowsy and stupid and *very apathetic.*

Allium cepa (the common red onion).—In cases where we have profuse watery discharge from the eyes and nose, but without the great and rapid prostration characteristic of arsen. The tears are bland, but the nasal discharge is very acrid and watery, and accompanying these symptoms we may have a very painful laryngeal cough. It is interesting to note that the onion contains appreciable quantities of phosphorus and sulphur.

THE COUGH.—Should any special remedies be required for the cough—apart from those indicated by the general symptoms—sticta pul., phos., hyos., con., dros., rumex, and ant. tart. are a few of the more likely ones.

Sticta ("Lungwort") has been used largely in influenza, where the cough

was a prominent and distressing symptom. It is dry, worse in the evening and night, and allows the patient neither to sleep nor lie down.

Phosphorus.—With the cough we find rawness and soreness of the chest with oppression at its upper part more especially, as if a weight were lying upon it. The cough is aggravated by cold air and by lying on the back or left side, and from talking and laughing.

Hyoscyamus.—An irritable, dry, nervous cough, which comes on as soon as the patient lies down, but is better on rising or sitting up (pula. is similar in this respect).

Conium.—Tormenting night cough when first lying down; there is hardly any cough during the daytime. It is spasmodic in character and simulates whooping cough. The patient is unable to expectorate, but must swallow what he coughs up.

Drosera.—A spasmodic, hoarse and deep sounding cough as soon as the head touches the pillow; worse in the afternoon and evening, and again after midnight.

Rumex Crispus.—Violent, incessant, fatiguing cough, aggravated or excited by pressure on the trachea or throat pit, by talking, and by every inspiration of cool air, or by any variation in the volume, rapidity or temperature of the inspired air. It is provoked by a tickling in the suprasternal fossa, and is accompanied by stitches through the left lung and rawness under the clavicles. It is worse in the evening and night, and from 2 to 5 a.m.

Antimon. tart.—In bronchitis, with much loose phlegm but feeble expulsive power, i.e., in the threatening "paralysis of the lungs," especially in infants and the aged. The mucus is plentiful, loose and rattling, yet the patient cannot get it up, and may not even feel the need of coughing, because the sensitiveness of the reflex mechanism is being blunted by the venous condition of the blood. Probably along with this we may notice a bluish tint on the red surface of the lips and the gradual development of a drowsy condition. When these symptoms are present the patient is in a very dangerous condition. Bary. carb. is complementary to ant. tart. in cases of impending lung paralysis in the aged.

Another medicine well worth keeping in mind is kali iod., as it is of great use in *oedema pulmonum*, accompanied with great rattling of mucus in the chest, with watery expectoration, looking like soap-suds. In the case of children, ipecac. often precedes the ant. tart. stage.

I have intentionally said very little about *potency*. Most of the remedies named in the foregoing list work very well in the medium and lower potencies (1x to 12) in influenza cases, though one may often go higher with advantage to the patient. As I have frequently said, so I would say again, that I believe the potency question would look after itself provided we would always select the *most like* remedy and give it alone, only changing to another if we find the medicine is *not* the most like, or if a change of symptoms demanded it. By constant and daily practice at this one would speedily form scientific *habits* of thought and practice, so far as prescribing is concerned. Another point which cannot be too strongly insisted upon is,

that having given a medicine, whatever the potency, should the patient show distinct signs of improvement, then it should be discontinued, or at least given very much less often, and then as soon as the improvement ceases it may be again given, or, if the symptoms have altered, another more appropriate one should be selected. In this way one can gauge exactly how much medicine is necessary to cure the patient, and thus avoid the risk (a very real one) of introducing complications from over-dosage—I mean that when given in excess of what is necessary to cure, the medicine may begin to produce its own characteristic *pathogenetic* symptoms.

In the old school the practice is to give *as large a dose as the patient can stand*, and repeat it as often as possible with the same proviso, *i.e.*, the dose should *just be under the minimum lethal*. In homœopathy the rule is to give the *smallest amount that will cure the patient*; anything more is clearly unnecessary and wasteful, and *may be injurious*.

As a "pick-me-up" after an attack of influenza a few doses of psor. (30th, 200th or higher) will be found of great benefit.—*Monthly Homœopathic Review*, March 1, 1898.

Acknowledgments.

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THE REIGN OF TERROR AND LAWLESSNESS
IN CALCUTTA.

THE dreaded disease, against the importation of which into Calcutta such energetic measures were and are being taken ever since its appearance in Bombay, is said to have at last made its unwelcome visit to our city. It has been authoritatively declared that Calcutta has become plague-infected. The first case, which was seen only after death, is said to have occurred just about the middle of April, at a time when the health of the city was at its best, better than the average of the past five years. Once the suspicion of the existence of plague was raised, it was easy for those, who were looking for it ever since the discovery of the case of Cottah in Howrah by Dr Simpson, to find cases which it does not take much ingenuity to transform into veritable cases of plague. And the Municipality has been busily reporting case after case, as occurring here and there in Calcutta, and up to the 30th of this month 76 cases and 57 deaths have been reported. Some of these cases, which had come under the observation of watchful men, were challenged and proved to be cases of ordinary fever or even other diseases than fever, but we do not see that the Municipality has taken care to make the necessary corrections in their returns. If it was the object of the Municipality to swell the numbers of the plague cases or the so-called plague cases in order to show that Calcutta was really plague-stricken it could not have adopted a better plan.

It is a fact that medical opinion is not unanimous on the real nature of the cases that have been reported as cases of plague. The oldest and the most experienced practitioners of the city are decided in opinion that the cases are not new to them, that they have been observing and treating such cases ever since they have commenced to practise. With all deference to the high medical authorities who have pronounced plague in Calcutta, we are inclined

to hope that the real disease has not yet made its appearance in our city; or if it has, it has come shorn of its infective virulence.

We may remark in passing that, owing to the faulty construction of our drains or want of provision for the out-flow of storm water, for years past the streets of Calcutta are being flooded during even a moderate shower, and this water remains stagnant for hours, being but slowly absorbed into the drains. This has the effect of rendering the soil of the city more and more water-logged and malarious. And we believe that the cases of severe often fatal fever that are cropping up are due to this cause more than to any other. The authorities cannot, therefore, do better than attend to the drainage as much as they are doing to the conservancy of the town and the segregation of suspected cases.

Some of the cases reported as plague were, it must be admitted, very severe cases indeed, but they were not unique in the present year. Such severe cases are observed from time to time. And but for the plague in the Western Presidency and the dread which it has caused in the minds of men, they would never have been looked upon as cases of plague at all. The unusual mortality amongst them is undoubtedly due to the severity of the cases themselves, but in many instances they have been undoubtedly aggravated by the modern orthodox treatment of fevers generally consisting of the alternate use of powerful sedatives and stimulants, by the depressing influence of the fright into which patients are thrown by the fact of their being dragged from their homes, and not less perhaps by the medical treatment they receive at the Isolation Hospital at Maniktala. For if it be true, as we have been told, that Rum mixture is the favorite medicine for all cases whether the fever is high or low, we need not wonder that most of these cases should get comas and delirium where there were none, and ultimately succumb to the very benevolent care bestowed upon them to rouse their vital energies supposed to be prostrated by Plague! The authorities ought to see if this is fact or not. If it is, the scandal should be removed at once. Those in charge of the hospital should be men of experience and of acknowledged competency, and supervision should be exercised over them by men of the highest rank in the profession. For otherwise the horror of hospitals generally, which is felt by the poor people of this country and which in the case of the isolation hospital has deepened into the belief that men are taken there only to be killed, will continue, and be a source of incalculable mischief.

It is a most melancholy fact that ever since the declaration of Plague, Calcutta is in a state of unrest and consternation which must be seen and felt to be believed, and of which only a faint idea can be formed from reports and representations in the newspapers of the day. There is a reign of terror and lawlessness which has unsettled the mind of every one except of

rascals and scoundrels who seem to have adopted the Satanic motto—"evil, be thou my good," who are bent upon building their fortunes on the misfortunes of others, and who have displayed an amount of ingenuity in devising plans to give effect to their fiendish propensities which is simply marvellous.

We think we are within the bounds of sober truth when we say that nearly a third of the native inhabitants have taken to flight, not to escape from the dreaded disease which is said to have come at last, but from the plague regulations which they believe are worse than the plague itself. To the oriental mind separation from family, especially in the hour of sickness and suffering, is a calamity worse than any that can befall any human being. They cannot understand why, if in case of being attacked with such deadly infectious diseases as small-pox they are allowed to remain at home, they should be dragged thence when attacked with plague about the very contagiousness of which medical opinion is so divided.

It is true that home segregation, which was disallowed by Sir Alexander Mackenzie, has to a large extent been very wisely allowed by the government of Sir John Woodburn. But for the poor who live in huts home segregation is impossible, and it is they who have taken so much fright and fled from the city, leaving it denuded of those who are the most indispensable members of society, forming the very basis of its superstructure. And the consequence is that Calcutta has become a veritable plague spot from want of proper house-cleaning and general conservancy. No amount of supervising staff from Royal Engineers downwards can take the place of the menial servant, the groom, the night soil carrier, the conservancy carter, &c., &c. But the authorities do not seem to be mindful of this latter point. They are more bent upon multiplying the supervising staff which means an enormous additional expenditure that may land the municipality upon the verge of bankruptcy.

To the horror of segregation and isolation hospitals has been added the horror of inoculation which has been a most potent cause in frightening people out of Calcutta. Notwithstanding the most solemn assurance of our good Lieutenant-Governor that no body will be inoculated against his will, the leaning shown towards inoculation by the counter-assurance that no member of a family, which has been entirely inoculated, will be segregated even if attacked with the actual plague, has led to the belief that Government wants inoculation and will have it some how or other. This belief has led some people to choose inoculation as the lesser of the two evils, but the majority, rather than have their healthy bodies infected with a virulent septic poison, have taken to flight from the city.

But what has contributed most to unsettle the minds of all classes of the native population, more even than the horrors of

segregation and of inoculation, is the indiscriminate manner in which it is believed patients are being dragged away from their homes, without any previous notice being given them, to the isolation hospital. No matter what the disease may be from which a person may be suffering, whether acute or chronic, if there is any fever or swelling anywhere, he is sure to be pounced upon as fit for removal from his home, on information reaching the police or the municipality that he is suffering from plague. The poor have no escape, and how many of the middle classes can afford to have doctors of the first rank in the profession to pronounce upon the cases which on the barest suspicion are liable to be removed to the isolation hospital?

To counteract this mischievous officiousness of the plague men of the municipality, vigilance committees with at least one doctor to each have been appointed for the wards of the town, but it is melancholy to observe that it is very seldom that these committees are consulted. Any scoundrel, who has a grudge against any body, may maliciously write to the municipality of the latter as suffering from plague and this unfortunate victim of malice may have at any moment at his door the dreaded ambulance cart with a posse of police to take him away. Are people to be blamed if they are tempted to offer forcible resistance to being forcibly removed from their homes even if suffering from slight ailments to a place where they believe they are sure to die? Are people to be blamed if for their lives they take to flight from a city in which such a state of things has become possible? We might as well blame the Almighty for having endowed His creatures with His most precious gift, the instinct of self-preservation.

Not less deplorable than the alarming exodus which has taken place, leading to stagnation of all business and functions in Calcutta, are the riots and acts of tragic violence which have followed the declaration of plague in Calcutta. The best intentions of Government have been distorted and misinterpreted, the wildest rumours and canards have been circulated about quarantine, search parties, forcible inoculation and what not, and the result has been the predominance of mob rule. The scoundrels, of whom there seem to be too many in Calcutta, have found a splendid opportunity to fan into flame the fury of the ignorant crowd and goad them to acts of lawlessness which have struck terror into the hearts of all law-abiding men.

Under the conviction that cases of plague are occurring in Calcutta, Government is right in adopting measures to stamp the disease out. But considering that the cases are still of a sporadic character and have not yet exhibited any infective virulence, the authorities ought to see that the measures adopted are not so unusually rigorous as to prove intolerable hardship to the people. In point of fact the measures, in the way they are

being carried out, have, as we have seen, caused a panic such as has never been known except where the same measures are being carried out with the same rigor, and Government ought to do everything in its power to allay the panic. Home segregation ought to be as freely allowed as it is in small-pox. Only the homeless should be removed to the Isolation Hospital, and this should be done with the utmost care and the gentlest manner. Matters can, we think, and ought to be so arranged that isolation hospitals will be looked upon as blessings and not curses, and plague-doctors as saving and not destroying angels.

THE SYMPTOMS AND DIAGNOSIS OF PLAGUE.

As the complaint has become very general that people are being forcibly removed from their homes on the merest suspicion, when only suffering from the slightest ailments, we think a description of the symptoms of plague, with a view to show the very great difficulties there are in arriving at a correct diagnosis of the disease, will not be inopportune at the present moment.

The disease may be conveniently divided into stages. Five stages may be noticed in a typical case ending in recovery. These are—1. the stage of incubation; 2. the stage of the development of fever; 3. the stage of the development of local symptoms; 4. the stage of crisis or defervescence; 5. the stage of convalescence.

1. THE STAGE OF INCUBATION, which may also be called the STAGE OF PRELIMINARY SYMPTOMS or the PRODROMAL STAGE, extends from the first introduction of the specific poison, whatever it may be, whether a living germ, or an effluvium, into the system to the first manifestation or development of fever. This stage is characterised by malaise or a feeling of being not well, evidenced by "loss of appetite, lassitude, depression, stiffness, racking of the limbs, slight giddiness, earache, palpitation at times, also dull pains about the groins, the axillæ, &c., where bubos subsequently appear." Symptoms may be worse than even these. "The face of the patient is pale and listless, the features are distorted, the eyes dull and hollow, the look staring, speech is difficult, and walking stumbling, giving the impression of one heavily drunk." There may be nausea, often vomiting, generally constipation, at times diarrhœa, oppression of the chest, intense headache. The duration of this stage may last from a few hours to five, six, seven, or even ten days. After this stage comes on

2. THE SECOND STAGE or the STAGE OF THE DEVELOPMENT OF FEVER, which is ushered in by paroxysms of shivering simulating ague, for which it may and often is mistaken. The fever is marked by irregular exacerbations and remissions. The temperature may not be higher than 100, but generally varies from 102 to 105

or 107. The pulse becomes quick, ranging from 100 to 150, weak and irregular. The respiration becomes rapid and shallow, varying from 20 to 50. "The skin is hot, dry, non-perspiring, and attended with a peculiar earthy odor most marked in the general septicæmic cases." The face appears pale and collapsed, but more often somewhat swollen; the eyes are suffused, bright, but staring; the pupils mostly dilated; the hearing weakened. With the advent of the fever the symptoms of the first or prodromal stage, the lassitude, the nausea, the vomiting, the headache become worse. In addition there is pain and a sensation of heat as of burning charcoal in the epigastrium, and at times a sensation likened to being stabbed in the breast. The thirst is said to be violent and constant. Dr. Dyson makes no mention of this in his Report of the Plague in Bombay. The tongue presents a characteristic appearance and the experienced physician may take it as an early indication of the disease; the dorsum is thickly coated white as with chalk or mother of pearl, the edges and tip remaining clear or assuming a bright red appearance. Sometimes the tongue becomes actually swollen, and, being too large for the mouth, protrudes. Later it becomes dry, cracked, and covered with a dirty brownish coating. The lips, teeth, and even the nostrils are covered with sordes. The vertigo, headache, and drunken appearance of the prodromal stage become worse, and soon pass at once into stupor and coma or after delirium, restlessness, and jactitation of the limbs and tendons. When coma supervenes the patient has a dull, stupid, apathetic look with generally half-shut and seldom completely shut eyes. Even when conscious the patient is hardly able to answer a question, if he does he does so slowly and partially, and falls back into stupor while answering. In this stage there is either constipation or diarrhœa. The diarrhœa, according to its character, may be a favorable or an unfavorable symptom. If it is mild, simply bilious, and not exhausting, it is a good sign. If the stools are dark, offensive, copious and exhausting, the diarrhœa will aggravate the prostration and hasten the fatal end. The urine is much diminished, often bloody, and may even be suppressed.

3. THE THIRD STAGE, which has been, though not quite correctly, called the ERUPTIVE STAGE, is the one in which we have the development of local symptoms. These are buboes or inflammation and swelling of the lymphatic glands. They are observed in more than two-thirds of the cases. They are found in the groins, the armpits, on the edge of the lower jawbone and the neck, quite exceptionally at the elbows, in the bend of the knee or above the clavicle. * And their frequency is in the order in which they are mentioned, that is, they are most frequently found on the groins, less in the armpits, lesser still on the edge of the lower jaw and in the neck, least of all in the other places. According to

Russel's statistics, in 2,700 cases of the plague inguinal buboes were present in 1841, axillary buboes in 231 cases. Inguinal buboes occurred 175 times on both sides, 129 times on the right side, 589 times only on the left one. Axillary buboes occurred 9 times on both sides, 185 times on the right, 166 times on the left side. Maxillary buboes alone occurred only 130 times, and among these 67 times in children. Cabiadis in 1,826 cases found inguinal buboes in 720, axillary buboes in 406, cervical buboes in 98, buboes in several places at the same time in 122.

As a general rule the eruptive stage follows the first manifestation of fever by one, two, three or rarely four days, that is, the buboes make their appearance on the second, third, fourth, or fifth day of the fever. These swellings are preceded by very acute pains of a stabbing character in the regions in which they are to appear. The enlarged glands are rarely numerous, as a rule one of a group is conspicuously enlarged. The size of the swellings varies; at the onset they are small, but soon becomes as large as a goose egg, and may even be as large as an orange, or larger. In the Bombay cases the number and size of the buboes afforded no indication of a favorable prognosis. Suppuration is generally looked upon as a favorable, flattening an unfavorable, sign. Along with buboes, boils and carbuncles may appear, but comparatively much less frequently. In Bombay the frequency was scarcely 1 per cent. In this eruptive stage in the majority of the cases the symptoms of the second continue with unabated intensity, and then become aggravated, terminating in death. Or they begin to abate and then comes the next stage.

4. THE STAGE OF CRISIS OR DEENERVESCENCE follows the eruptive stage when, with the appearance of the buboes, the temperature begins to fall and perspiration sets in. The pulse becomes stronger and less frequent, falling to 100 or even 90. The patient becomes quieter if he was restless, more sensible if he was comatose. His expression becomes more natural. The tongue becomes moister and cleaner. The dilatation of the pupils becomes less, and the eyes less suffused. The urine becomes more and more copious. The buboes suppurate or in rare cases remain stationary for sometime.

5. THE STAGE OF CONVALESCENCE follows insensibly the stage of crisis. It is, indeed, the continuation of the latter with continued improvement in all the symptoms. "Convalescence," according to Scheube, "sometimes proceeds pretty quickly; often, however, it takes a long time, particularly in the case of prolonged suppuration of the buboes, of suppuration of internal lymphatic glands, of carbuncles, parotides, abscesses of the skin or deeper-seated tissues, of pneumonia, or of a persistence of the typhoid condition." The earliest day at which convalescence may com-

mence is the seventh, it generally commences from the tenth, and it may not commence before the fourteenth day.

The stages above described are what are observed in the typical cases where recovery takes place. Very often considerable deviations occur from this typical course. Thus, the first stage may be so short as to be scarcely noticed, and the symptoms may be the gravest from the beginning. The patient is struck down at once with utter prostration, and he may die in the course of a few hours or at the latest within two days before the characteristic symptoms are manifested, that is, before the third stage is reached. There may not even be any marked second stage, that is, there may not be any febrile reaction at all, or if there is it is quite out of proportion to the prostration. It is to these cases that the term *fulminant* or *foudroyant* has been very properly given. They are generally observed at the commencement, but also during the course and end of an epidemic. "The conclusion," says Dr. Payne, "that they were part of the prevailing epidemic—the infection having overwhelmed at once, as it were, the sufferers—appears justified by the prevalence, at the same time, of an intermediate class of cases, also very quickly ending in death, in which some traces of glandular swellings were observed, with profound disturbance of the nervous centres, convulsions or coma, and rapid formation of vibices and purpuric spots."

These so-called intermediate cases should also be included in the fulminant class. The difference only is that the three first stages, though hurried one into the other so as to follow each other in rapid succession, are just distinguishable to show the character of the disease. Death takes place in the fulminant cases from within a few hours to within two days of the commencement of illness. In the cases just less severe than the fulminant ones, that is, when the early stages are clearly distinguishable, death takes place in the third stage from within four to seven days. The passing over the seventh day is looked upon as a favorable sign which promises recovery.

The order of the second and third stages may be reversed so that the glandular swellings may occur first, and the fever come on after. These are generally, but not necessarily, mild cases. The febrile reaction after the appearance of the buboes may be very severe and lead to a fatal termination. Sometimes preceding and following an epidemic are observed cases unaccompanied with any fever, or with only such slight febrile disturbance as not to preclude the patient from going about his business. These are said to be cases of abortive or ambulatory plague, abortive because they do not develop into the full disease, ambulatory because the patients can walk about. These cases do not seem to carry infection.

Dr. Winterburn has very properly remarked that "it is one of the characteristics of this distemper that 'on the first breaking out the disease has never been known to be the plague.'" The foudroyant cases of plague so closely resemble similar cases of pernicious malarious fever that they cannot be distinguished. The abortive cases may be mistaken for non-venereal and even venereal buboes, and vice versa. "The glandular swellings and the carbuncles which are the significant evidences of this disorder, also occur in connection with the intermittent fevers of the same district; not to the same extent, nor with the same malignancy, but still sufficient to obscure diagnosis." Again, plague is very insidious in its first appearance. It never begins as the plague. Its forerunner often, though not always, is a constantly increasing sickness, and a tendency of all diseases to assume the malignant type.

The difficulty of diagnosis vanishes when the disease rages as an epidemic. "No other idiopathic fever," says Cabiadis, "attacking a multitude of persons at the same time, is characterized by glandular swellings, carbuncles, and by those severe manifestations of the nervous, sanguineous, and biliary systems which declare themselves in an attack of plague." During an epidemic the foudroyant and the abortive cases cannot be mistaken for any other disease. During an epidemic a patient may be known to be plague-stricken by his very physiognomy which is one of apathy and hebetude, and very seldom of anxiety and undefined fear. Such diagnosis, however, would be deceitful and dangerous at other than epidemic times.

What about the bacteriological diagnosis of plague? Our readers are familiar with the so-called grand discovery of the specific bacillus of plague by the Japanese bacteriologist Kitasato, independently and almost simultaneously corroborated by the French bacteriologist Yersin. And notwithstanding the investigations made by Commissions of several Governments, notably of Germany and Egypt, and the investigations by Haffkine and Hankin, we do not think the matter has been quite definitely settled yet. There is still so great a difference of opinion on the subject as we pointed out in our last number, that it has led Prof. Crookshank to believe that the real nature of the contagium of Plague is yet unknown. And only recently the Health Officer of Calcutta is reported to have said that even in undoubted cases of plague the bacteriological examination of the blood does not give positive results. Under these circumstances to place absolute reliance upon bacteriological diagnosis would not be safe and may be, as we know to our cost, dangerous.

NOTE ON ANTI-PLAGUE INOCULATIONS.

BY SURGEON MAJOR-GENERAL R. HARVEY, D.S.O., M.D., F.R.C.P.,

[For want of space we are obliged to withhold our comments on this Note till our next number. Meantime we leave our readers to judge for themselves what course to follow. We would be the first and foremost to hail with joy a procedure which promises to combine in it both a prophylactic and a curative virtue, provided we could be sure that such a desideratum has been attained. It is a positive fact that the inoculation introduces into the system a septic poison which certainly does develop a septicæmia more or less severe, and which has, in some instances, been followed by a state of unhealth of long duration. The most important question to determine is, how long the immunity, if there is any, can last, and whether, after its loss, the inoculated may not be more susceptible to the infection from the disease? Another not less important question to decide is, may not the inoculated, while immune themselves, carry infection to others? Before these problems are satisfactorily solved, would it be safe to be inoculated?—EDITOR, *Cal. Journ. Med.*]

From the earliest times the treatment of plague has been the opprobrium of the medical profession, and the results of recent experience seem to show that it is so still. The case mortality both in China in 1894-96 and in India in 1896-98 has ranged from 70 to 90 per cent., and it seems to be pretty generally admitted that such cases as recover do so in virtue of inherent power of resistance rather than as a consequence of medical skill, although isolated cases are, no doubt, helped to recovery by treatment.

It is only since 1894, however, that the true cause of plague has been demonstrated as due to a pathogenic microbe. This was discovered at Hongkong by Kitasato, and his observations have now been fully confirmed by other observers. Some such cause had for years been accepted by the profession as a matter of theory, founded on the analogous cases of small-pox, anthrax, and other so-called zymotic diseases, and the results of bacteriological work had led to the belief that a remedy might be worked out on bacteriological lines similar to that found in vaccination against small-pox, and the preventive inoculations against anthrax, cholera, diphtheria, etc. No practical work could, however, be done until the theory had been proved to be a fact, and the general absence of plague in centres of scientific medical activity delayed the discovery until the outbreak in Hongkong in 1894. This speedily proved that the theories were right and gave a great impetus to the hope that a protective and curative treatment based on scientific principles might be worked out. This could only be done by experiment and by practice, and time was required to prove its efficacy. Numerous experiments have been made both in the laboratory and in plague-stricken districts, some of which

have been failures, others more or less successful. Some have been intended as preventive, some as curative, some as both. Great hopes were at one time entertained that M. Yersin of Saigon had solved the problem, but recent results show that his serum prepared on the same lines as the anti-anthrax serum of M. Pasteur does not come up to expectation. Another curative serum devised by M. Haffkine has also failed, and a third by M. M. Lustig and Galeotti now under trial in Bombay, while it seems to do great good in some cases, fails to effect much reduction in the total mortality. It must be remembered, however, that all these methods are tentative, that the experiments are only beginning, but the analogies mentioned above point to the fact that they are experiments in the right direction, and that we may hope for ultimate success.

The most promising results so far attained are those of M. Haffkine, and it is to this method especially that this Note is intended to call attention. The idea is to combine a preventive and curative method which shall eliminate or greatly diminish the risk of contracting the disease, and at the same time reduce the case mortality. In his anti-cholera inoculations a bactericidal power is conferred on the individual by inoculation with attenuated comma bacilli, so that when exposed to attack his system can resist and kill off the invading microbe in its natural condition.

The result is diminished susceptibility and a consequent reduction of the absolute mortality; but when an inoculated individual does get the disease the case mortality has so far been little affected.

In his anti-plague inoculation he uses the bacilli of plague to confer a bactericidal power which shall enable the individual to resist the same in its natural form; but goes a step further and by injecting the toxins secreted by the bacilli in the cultivating medium in which they grow, he strives to produce an anti-toxic effect in the tissues which shall enable the patient to throw off the poison if it should gain access to his system, and so reduce the case mortality. He frankly states that the process is based on hypothetical considerations, and that time and experiment alone can prove the validity of his conclusions.

It must be obvious that an experiment of this kind must be tried on a large scale before any trustworthy conclusions can be drawn, and that many difficulties and possible sources of fallacy will be met, and must be disposed of, before we are entitled to say that events following inoculations are effects and not sequences.

Thus plague may disappear from a village immediately after inoculations have been done. It by no means follows that the inoculations have been the cause of the disappearance. The disease may have come to an end at this particular time, and the inoculations be no more than a coincidence. Similarly, the exemption of a jail or other inoculated community may have no connection

with the inoculation, but be due to the fact that the plague bacillus has never been introduced, in which case there could have been no plague, though no inoculation had been done.

It is only when plague is actually present and when inoculated and uninoculated persons are living together under similar conditions in the midst of it, that we can begin to draw conclusions by comparing the incidence of the existing epidemic on the two classes; and it is only when a number of instances like the above have shown that under similar conditions similar results invariably appear, that we gradually substitute the relation of cause and effect for that of mere sequence; every additional instance strengthening the induction until we arrive at scientific proof.

The results so far arrived at go far to show that M. Haffkine is working on the right lines; that he has already obtained a measure of success which would justify the voluntary adoption of his method by the public; that there is reason to hope that still better results may follow from further experiments and observation; and that in time it may be possible to expect as much from inoculation in the suppression of plague as we now do from vaccination in the stamping out of small-pox. At present, however, the process is too crude and imperfect to justify any compulsion on the part of Government, though it might well consider the advisability of holding out inducements to inoculation by conferring certain exemptions from unpalatable restrictions on those who have submitted themselves to it.

Before discussing such questions, however, it will be well to briefly record the results already attained in different places where the inoculations have been tried.

Bombay House of Correction.—Plague broke out towards the end of January, 1897, and attacked nine prisoners, six of whom died. On the 30th January inoculation was offered to the prisoners, a number of teachers and students of the Grant Medical College being done in their presence to encourage them. Six additional cases, three fatal, occurred the same day among the non-inoculated, and three of the inoculated developed symptoms the same evening and also died. These cases are not included in the following figures, which show the results from the day after the inoculations, till the epidemic ended eight days later:

	No.	Cases	Per cent.	Deaths.	Per cent.
Uninoculated ...	173	12	6.94	6	3.49
Inoculated ...	148	2	1.35	0	0.00

Mora in the Kolaba District, near Bombay, has a population of about 1,000; seven cases occurred among 429 inoculated persons. All recovered. During the same time there were 26 attacks among the uninoculated part of the population, 24 of which proved fatal.

Lower Damaon experienced a very severe visitation of plague in

the cold season of 1896-97. The history of the epidemic was very carefully investigated by Surgeon-Major Lyons, and the figures show that some 2,197 persons were inoculated, while 6,033 remained uninoculated. Between the end of March and the end of May, 1897, no less than 1,482 of the uninoculated died of plague. The inoculated lost only 36, whereas had they suffered at the same rate as their uninoculated neighbours, they should have lost 322—a saving of close on 90 per cent.

Lanauli.—In July, 1897, M. Haffkine and his assistants inoculated 323 persons in the two wards most severely infected with plague, 377 others remaining uninoculated. Among these there were subsequently 78 cases and 58 deaths, while among the inoculated there were only 14 cases and 7 deaths, instead of 67 and 49 as there should have been had they remained as susceptible as their uninoculated relatives, living beside them under identical conditions. Here the reduction in mortality was some 86 per cent.

Kirki had a severe epidemic in the autumn of 1897 in which the followers belonging to the Royal Artillery suffered heavily, in spite of all possible precautions taken by the military authorities. These people numbered 1,530 living in about 40 barracks on the Kirki maidan. "Out of the total of 1,530 individuals," to quote M. Haffkine, "671 availed themselves of inoculation, while 859 belonging to the same families living under the same roofs, having the same food, drink, etc., and subject to the same general preventive measures adopted by the military, remain uninoculated. From the time of inoculation up to the end of the epidemic, the 859 uninoculated had 143 cases with 98 deaths. Seeing the absolute similarity of the conditions, the 671 inoculated should have had proportionately 112 cases with 77 deaths, if they had remained as susceptible to the disease as were their uninoculated brothers, sisters, parents, wives, husbands, children. Instead of that they had 32 cases with 17 deaths. The number of 77 deaths was therefore reduced for them by 60, that is, by 77.9 per cent."

These cases all occurred before the recent recrudescence of plague in Bombay. A large mass of additional information has since been accumulated, but has not yet been worked out, although it all appears to point in the same direction. The two following instances, however, are complete, and have been most carefully verified.

Umarkadi Jail.—Bombay was attacked by plague in January, 1898. About half the inmates had previously been voluntarily inoculated, the numbers on 1st January being uninoculated 203, inoculated 198. A number of men were released during the month, others were inoculated, and on the 30th there were 106 uninoculated to 134 inoculated. Cases occurred throughout the month, ten in all with six deaths, all in uninoculated prisoners.

No inoculated person was attacked, and the disease was believed to have disappeared. Since then, however, there have been three suspicious cases among inoculated persons, one on 10th February, one on 28th, and one on 18th March. All these have recovered, and the hospital authorities at Parel were not quite sure that they were cases of plague. If they were, they were so much modified as to be with difficulty recognisable. I saw two of them and they looked to me like mumps. Both parotides were equally affected (a rare thing in plague).

Udara, a village about six miles from Baroda, was attacked by plague in January 1898. On the 5th February a careful census was taken and showed a population of 1,029. Up to and inclusive of 14th February 79 plague deaths occurred, leaving 950 people to be dealt with. Of these 513 were inoculated, leaving 437 uninoculated. As far as possible an equal number of each sex, age and family were done, and as all were living under precisely similar conditions as to sanitary surroundings, food, drink, clothing, etc., the case is the best and most conclusive example yet available of the result of inoculation. Except for the inoculations all were on the same footing, and the disease had got a thorough hold of the place. The usual sanitary precautions as to segregation and disinfection were carried out, all plague cases being removed to hospital and every effort made to combat the disease in the usual way. The inoculations were done on the 12th, but the following figures are taken from the 15th so as to eliminate cases incubating plague at the time of the inoculations. Three deaths occurred among the uninoculated between the 12th and 14th inclusive, none among the inoculated. These three deaths together with two others which might possibly have been due to diseases other than plague have been eliminated, so that no exaggeration as to the effects of the inoculation may be possible. The results up to 2nd April are as follows, but no case occurred after 26th March, so that we are probably dealing with a finished epidemic.

Between 15th February and the cessation of the disease, plague cases occurred in 29 families, living together, as already said, under exactly similar conditions, save that some were, and others were not, inoculated. These 29 families comprised 135 individuals of all ages, 71 of whom had been inoculated and 64 not. The 71 inoculated had 8 cases with 3 deaths, while the 64 uninoculated had 28 cases with 26 deaths. Had the inoculated been as susceptible as the uninoculated, they should have had 29 deaths instead of three, and the inference seems irresistible that the inoculation saved 26 lives out of this small number or 89·65 per cent. Taking the whole number inoculated, 513 had 8 cases or 1·56 per cent. and 3 deaths or ·58 per cent, while the 437 uninoculated had 28 cases or 6·4 per cent. and 26 deaths or 5·9

per cent., just ten times as many. The protective influence of the inoculations is brought out still more strongly in some particular instances. Thus in hut 84, ward 4, five persons were inoculated and five uninoculated in a family of ten. The five inoculated remained healthy, while two out of the five uninoculated got plague and died. In hut 18 of the same ward three inoculated persons remained healthy, two uninoculated died out of a family of five. In hut 26, also in ward 4, one inoculated person escaped, two uninoculated died out of a family of three. In hut 8, ward 1, four inoculated persons escaped, while the one who remained uninoculated contracted the disease and died. In hut 24, ward 2, out of a family of two, the inoculated member escaped, the uninoculated died. In hut 20, ward 3, one of three inoculated contracted plague but recovered, while one of four uninoculated got it and died.

In two out of the three huts where fatal cases occurred among the inoculated a death also occurred among the uninoculated, and in only one instance in the whole village did a case occur among the inoculated, while the uninoculated went free. This was in hut 31, ward 4, where one of four inoculated contracted and died of plague, while two uninoculated escaped.

These figures have been verified* case by case and family by family, and seem to me to prove that, while inoculation, as at present practised, is not an absolute protective either against seizure or death, it is of immense value both as a prophylactic and as modifying the severity of the disease and reducing the case mortality. * This was 37·5 per cent. among the inoculated, against 92·85 per cent. in the uninoculated.

Sulaiman Mussulmans at Baroda, a population of 404, living in an extremely dirty crowded locality. By the influence of their headmen and mullah, 322 of these people have been inoculated, and no plague has occurred among them, although cases have been prevalent all round about them. They have been taken into camp in batches, while their houses have been cleaned, disinfected and whitewashed. This case *proves* nothing, but so far as it goes is favourable to inoculation.

The Khoja community of Bombay has been largely inoculated, but the figures are not yet available. It is believed, however, that only some twenty cases of plague have occurred among several thousands inoculated, and that only three or perhaps four have been fatal.

Similarly out of some 600 inoculated dependents of His Highness Aga Khan at Poona, all are believed to have escaped plague, though mixing freely with the general community among whom the disease was exceedingly severe.

* By Surgeon-Major Bannerman, Madras Medical Service, Surgeon-Captain Dyson, Bombay Medical Service, M. Haffkine and myself.

The people at Undera are thoroughly convinced of the efficacy of inoculation, and those of a neighbouring village (Jotai), where plague is now prevalent sent in a deputation of their headmen to implore that they might be done. Arrangements were made to do as many as possible the following day.

It seems to me that these cases go very far to show the great value of the process. Those at Damaon and Undera have been carefully verified by independent observers, while some of the others have been already published and have not been challenged. How long the protection lasts can only be established by time, but were it only for a few months, we should have a valuable aid in saving people from attack during an existing epidemic. There is reason to believe, however, that it lasts much longer than this, for the large numbers inoculated during the first epidemic both in Bombay and Poona have, with very few exceptions, escaped the disease during the recrudescence.

The position, therefore, seems to warrant Government in extending facilities for inoculation and inducing the people to accept it by all legitimate means. The serum takes some six weeks to prepare and the *technique* of the process requires great care and can only be carried out by experts, but the actual inoculations can be done by any medical officer according to printed instructions. The operation is painless, but the serum causes a certain definite reaction in which the temperature rises to about 102°F. and local irritation at the seat of infection usually lasts some days and is frequently severe. This makes people shy of undergoing inoculation unless they have something to gain by it, and the fear of plague is in many instances insufficient to overcome these objections. Most people take an optimistic view of their chances of escaping plague—as Young says, “All men think all men mortal, but themselves”—and, considering that the total mortality in both the Bombay outbreaks has been little more than three per cent., the chances of an individual escaping are very large—thirty-two to one. *

If inoculation saved a man from forcible ejection from his house when plague is in the neighbourhood, if it allowed him to go freely about his business, if it saved him from detention in segregation camps and substituted surveillance for forcible detention, great stimulus would be given to the experiment, and with proper precautions as to disinfection and identification, which could be arranged for with no great difficulty, there would be little danger of the inoculated conveying the disease. No question of compulsory inoculation is intended, but the experience already gained shows that the numbers ready to accept it are already great, and as people realise its advantages they will steadily and rapidly increase.

Gleanings from Contemporary Literature.

NOTE ON PLAGUE PRECAUTIONS.

By J. N. COOK, D. P. H.,

HEALTH OFFICER, CALCUTTA CORPORATION.

IN any work on Public Health it will be found laid down that in addition to general cleansing operations and sanitary improvements, there are three special measures that can be taken adopted in dealing with epidemic disease, *viz.*, notification, isolation and disinfection. These measures have been adopted by the authorities in dealing with the epidemics of plague that have recently occurred in China and India. During my visit to Bombay, I have endeavoured to ascertain what measure of success they have met with there. I am satisfied that from the time the disease was fully recognised the Executives spared neither money nor work to make them effective, and yet about 25,000 persons have died of plague in the City of Bombay and something like 80,000 in the Presidency, and the disease after 18 months of indefatigable work on these lines is still causing a heavy mortality in the City. Some of the plague authorities with whom I discussed the question expressed a decided conviction that the mortality would have been much greater if these measures had not been rigorously carried out, but there is very little evidence of this and the result obtained is far from reassuring. There are several reasons why this system should fail in a large Indian town. The first is that nothing will make the people notify their cases if the immediate result of their doing so is that the patient, it may be a *purdah* wife, is hurried off to a hospital and other members of the family to a segregation camp. The more stringently the measures are enforced, the more pains do they take to conceal their cases, and even search parties supported by all the powers of the police and military do not avail to discover more than a moderate proportion of them. In first 15 days of March 1898, 2,243 attacks and 2,513 deaths from plague were registered. The total mortality was 4,620, the average mortality being 1,050. The difference 3,570 represents approximately the true plague mortality. But as only 2,513 such deaths were reported it would appear that in 15 days 1,057 deaths occurred which were not discovered. The number of non-fatal attacks not discovered cannot be estimated with the same exactitude, but attacks are easier to conceal than deaths, so that it is probable that at least one non-

fatal attack remained undiscovered for each death that remained undiscovered, which would bring the number of undiscovered cases of plague in 15 days up to the total of 2,114. Disinfection depends on notification, for if a considerable proportion of the cases are left undiscovered it naturally follows that disinfection fails, a large amount of infective matter being left in a virulent state to spread the disease. Even if every human case were discovered at the outset and disinfection carried out in the most approved manner, I doubt whether it would be effective, as it appears that the infection is carried by rats and perhaps other agencies which we are not yet aware of, and even if the whole building were reduced to ashes the probability is that some of the infected rats would escape and carry the infection into other dwellings. Segregation is likewise dependent on notification, and has in my opinion equally failed. In January and February there were 7,670 attacks of plague reported in Wari Bandar. This at the very low rate of 3 contacts a case would give 23,010 persons to be segregated in the Wari Bandar Camp. But only 1,572 were actually segregated there. So 21,428 persons who had been in close contact with plague cases escaped segregation in spite of the utmost vigilance and energy on the part of a large and costly staff of the most capable men who could be got together for the purpose. Under these circumstances segregation could not be expected to exert very much influence in checking an epidemic. It is, I am convinced, impossible to carry out a measure like segregation in a large oriental city when the entire population is against it. If the system adopted in Bombay were enforced in an enlightened European City there is very little doubt that there would be concealment of cases and not improbably resistance to authority. How much more then is it hopeless to expect that it will succeed with an oriental population with its *purdah* system and crystalised customs that have remained unchanged for ages.

To consider the question from another point of view, there are certain diseases which no one in Europe would think of treating on these lines. Take for instance influenza, the infection is so all-pervading that no rational man would think of trying to destroy it with disinfection and isolation.* Even in measles it is a matter of controversy whether any appreciable good can be done by including it in the category of notifiable diseases and dealing with it in this

* I believe an attempt was made to do so in an asylum or jail and that some measure of success was claimed, but that is a very different matter from attempting it in a city.

way. But plague though perhaps not so infectious as influenza is probably more so than measles. Up to 100 years ago the infantile mortality from small-pox in Europe was terrible and no means were found adequate to check it until the efficacy of vaccination was established and measures were adopted to enforce it with the result that small-pox has now lost most of its terrors. The conclusion I draw from all this is that the system of notification, isolation and disinfection has proved and is bound to prove a failure in dealing with an epidemic of plague in a city, and that we must look for some other measure which will at least give some prospect of success. The only one that appears to me in any way feasible is to deal with plague as we deal with small-pox by sending our vaccinators to the spot to vaccinate as many of the people living there or thereabouts as can be induced to submit to the operation. In Haffkine's prophylactic we have a vaccine against plague of proved efficacy, which as at present inoculated reduces the mortality between 80 and 90 per cent. There is, moreover, considerable evidence to show that the protection afforded lasts through at least one outbreak and probably longer. I am convinced that this offers much better prospects of controlling an epidemic of plague than any other measure that has been suggested. The only question in my mind is as to the best means of carrying it out. If Government were to order all people exposed to infection to be inoculated they would have a grievance and would probably resist it. There might even be serious trouble. But the people would do almost anything to get out of the obnoxious removal from their houses, and to do this would probably submit to inoculation very readily even at the commencement and still more so when they realised that the inoculated in most cases escaped infection. So I would suggest making the old classical measures of isolation and segregation as stringent as possible on paper, and at the same time letting it be known that they would not be enforced in a house in which not less than half the inmates submitted to inoculation. I believe that this could be done with a minimum of friction and that most people could further be persuaded to allow their poor relations and dependents to be taken to hospitals if stricken with plague, and that to insist on the master of the house or his wife being removed would only lead to the concealment of cases. It is above all things important to have the people on our side and not working against us, and if these measures were carried out with tact and consideration I believe the people would appreciate them and probably assist us, or at least offer a minimum of opposition. The efficacy of the prophylactic is so apparent that it is by no means

improbable that it would soon be recognised by a considerable proportion of the people who would voluntarily come forward to be inoculated for their own protection. Money must be freely expended in dealing with an epidemic of plague. In Bombay something like Rs. 25,00,000 has been spent in dealing with 25,000 cases, or Rs. 100 a case. I think a certain amount would be well laid out in giving a small dole for a couple of days to poor persons who submitted to inoculation, say As 4 a day for the 2 days that he might be unable to earn his livelihood for each bread-winner of an inoculated family. We should of course be largely dependent on the assistance of enlightened native gentlemen in carrying this out. There would be no difficulty about getting a sufficient supply of the prophylactic from Bombay. I have enough to inoculate 1,000 persons to start with.

In the remarks that I have made, I have dealt with the treatment of an epidemic of plague in a City, and I have expressed my belief that the measures generally adopted have proved and are bound to prove a failure. But in dealing with imported cases I have full belief in their efficacy and have myself carried them out with a successful result which might or might not be due to the efficiency of the measures. The history of an outbreak in any quarter is generally that one or two imported cases occur, then there is an interval, then two or three sporadic indigenous cases occur, after which the epidemic breaks out in full force. If the imported cases are detected and removed without rats or any other infective agency getting infected all will be well for the time at any rate. But our means of getting information of these cases is very imperfect and cannot be depended on. The proposal to insist on medical certificates of the cause of death with examination of corpses in default was not approved by the Plague Commission, so we are solely dependent on our system of observation of all persons from infected areas about which I have made suggestions in a separate Note. When the two or three indigenous cases occur the possibility of stamping out the disease by repressive measures is perhaps sufficient to warrant us in adopting them, though it is not likely that they will be effective, as the microbe has been reproducing and gathering strength somewhere and somehow during the time that has elapsed from the appearance of the imported cases, and the indigenous cases are the first signs of the storm rather than the sole vehicles of the infection. After that I believe that these measures are calculated to do more harm than good by setting the people against the Executive and leading to the concealment of cases. The whole secret of success however in dealing with imported cases and preventing an epidemic consists in having

everything ready and a sufficient machinery in good working order before they appear. For this I am of opinion that we should have, say a dozen small hospital sheds, capable of accommodating four or five patients each fully equipped and in charge of a hospital assistant in as central a place as possible so that on the occurrence of a case it can be sent there at once, and there need be no mixture of castes to irritate the relatives who would have some provision made for them in the enclosure, the remainder of the contacts being taken to a segregation camp or health camp capable of holding at least 500 persons. Such of these persons as submitted to inoculation might be permitted to go to their work or to return to their houses if they insisted on it after a couple of days which would give sufficient time to thoroughly disinfect the premises. Any damage done to the house in letting in light and air and disinfecting it should I think be compensated immediately in the case of the poor, the officer in charge of the proceedings giving them a slip to be presented for payment at the Municipal Office.

The policy lately adopted by Government appears to be to trust first to a voluntary agency to discover cases, if that fails fall back on stringent measures. If this is followed the only time when an outbreak can be successfully dealt with by such measures may be lost. Moreover, it is not probable that A. will be deterred from concealing a case in his house through the fear that if he does so B. C. and D.'s houses will subsequently be visited by police or military search parties. A. would probably do his best to conceal the case from B. C. and D. lest they should give information to the authorities. At the same time it is doubtful whether any measure would lead to their detection.

It is a matter of common experience that the infection of rats in a house usually precedes that of human beings, sick or dead rats being found before any human inmate is attacked, and the officers who have had most experience of plague are of opinion that the infection is mostly carried by rats. It becomes, therefore, an important matter to get rid of these rodents, or to so far reduce their numbers as to appreciably limit the mischief they are capable of doing as carriers of infection. In Bombay an attempt was made in this direction by putting grain soaked in arsenic in the gullies and large numbers of rats were killed. I do not consider this a desirable proceeding on account of the danger incurred in dealing with poisoned grain, and there is the further objection that many of the rats would die in their holes and cause a serious nuisance. I consulted M. Haffkine whether we could infect the rats with a virus that would cause

a serious epidemic amongst them but not affect human beings, as experiments have from time to time been made in this direction. He was, however, of opinion that much more experimental work was necessary before such a course could be adopted as a practical measure. Ferrets and rat-catchers are not available and could not do much good under the conditions prevailing here. So the only possible course is to try trapping on a large scale. I think an experiment might be made in some quarters of the town with traps that would allow of the entrance of a considerable number of rats, but prevent their return. I would suggest 50 to 100 such traps being procured and a small staff of men engaged to conduct the experiment. The principal difficulty of course is that the rats get very wary after a time. There would also be opposition to such a measure by Marwaries and Jains, but if dog-killing can be carried out without serious opposition there is no reason why rat-catching should not

As regards the conveyance of the sick I ascertained that at the beginning of the outbreak in Bombay they were removed in van ambulances drawn by horses. The people however took great exception to these conveyances and regarded them as hearses or prison vans. Subsequently the present Bombay pattern hand ambulance with bi-cycle wheels and a cover was introduced and has answered the purpose admirably. Some of them are now made with ordinary wheels on account of the cost of the rubber tyres which were found to wear out after about a year's hard work. One advantage of these ambulances is that a single man can wheel them. The general opinion of officers with whom I discussed the matter was that *dhoolies* are unsuitable for the work. The ambulances in Bombay ply about the streets or stand at stations ready to be summoned wherever they are wanted. Dead plague cases are frequently removed in the ambulances if unclaimed, but generally the relatives remove them on bamboo stretchers according to their usual custom. We have two unwieldy van ambulances and one Bombay hand ambulance. I think it very desirable that at least 25 of the latter should be provided. That would be one for each police station. At present the police are only provided with six *dhoolies* and great difficulty is experienced in getting bearers at ordinary times. During an epidemic of plague the difficulty would be much greater.

The hospitals in Bombay present every variety of style. Sheds freely open to the air are found sweeter and better than even well ventilated roomy buildings like Government-house, Parel. All the hospital sheds have raised plinths, but there is a difference of opinion

about the material, some authorities preferring an impervious floor of cement or Garlic stone, others an earthen floor which can be kept saturated with disinfectants. Most of them have the latter. Most of the sheds are capable of accommodating a large number of patients, but for imported cases and suspicious cases of fever such as we are likely to have to deal with at the commencement I should prefer a number, say a dozen, small sheds capable of accommodating 4 or 5 patients each. This would enable us to completely separate sexes and castes, a very important consideration, since, as I have shown, whatever is done, we are really dependant on the good will of the people to get the cases notified and the patients removed to hospital, and a false step at the outset would be most prejudicial. I would suggest then a dozen such hospital sheds fully equipped and in charge of a hospital assistant at G, Manicktollah Road, and an equal number in a convenient situation on the south of the town. For the south of the town I have selected a house with a large compound at the junction of the Diamond Harbour Road and the Budge-Budge Road. There is room for hospital and segregation camps separated from each other, and the building would serve for quarters and administrative purposes generally. In connection with the hospitals it would be necessary to have a few small *kutchas* sheds for the accommodation of relatives who accompanied the patients. As regards cots in Bombay they began with charpoys similar to those we have at Manicktollah, but they were abandoned in favour of cane-bottomed cots of better construction, as the charpoys were not suitable for wildly delirious patients, they got broken, and they could not readily be disinfected or restrung. A *kutcha* shed for the dead would be necessary with some cots in it which should be kept solely for the purpose. In Bombay there are a number of caste hospitals. Some of them are in large halls belonging to the castes, and kept for feeding the poor, etc., on feast days and festivals, others are sheds. Most of them are at least in part constructed and kept up at the public cost. No family hospitals are allowed, but I see no objection to our allowing them here in Calcutta, more especially as it is a matter of the utmost importance that we should have the leading native gentlemen with us on account of their influence with the lower classes.

As regards camps I think we should have accommodation in huts for 500 people for the north of the town in the site selected behind Mullick's Garden and for 200 in the south of the town in the compound that I have selected. They should have latrines and be ready for use in case of necessity, but I think that making bathing-places, draining, &c., could be left until they were required, and then executed

with the utmost despatch if water pipes were laid down. A good kind of bathing-place is a corrugated-iron enclosure with a platform of corrugated-iron which saves a lot of masonry and cement-work. A cheap drain is made with iron eaves rivetted together. It costs, if I remember right, about As. 4 a foot instead of over a rupee for open masonry.

I think it would be a good thing if we could get not only some of the superior officers, but also subordinate officers of experience who have worked in Bombay in the event of plague appearing in Calcutta. It would be time enough to arrange for special staff, accommodation for them, lady doctors, inoculation stations, etc., when the plague has come. But I should like to have a lien on the services of 2 or 3 medical or nursing ladies, so that I could be able to get them to examine any suspicious case occurring in a *purdah* woman without any delay.

Since writing the above, I have seen it stated in the papers that the measure that I have proposed of following inoculation as a substitute for segregation has now been adopted in Bombay, but as the epidemic is on the decline there its efficacy cannot be fairly tested.

PLAGUE MEASURES IN CALCUTTA AND ELSEWHERE.

TO THE EDITOR OF THE "ENGLISHMAN."

SIR—Dr. Nield Cook, the Health Officer of Calcutta, has given publicity to his views in regard to plague measures in this country, and in doing so has conferred an immense benefit on the people. I say an immense benefit, because the views he has expressed will surely be the guide in all future measures for dealing with plague in large towns and cities in India. I do not know Dr. Nield Cook personally, but I know him by repute and by his published writings. Now what is it that gives Dr. Cook a claim to be heard in the question of plague measures? There are three special reasons why he should be heard. (1) His practical training in sanitation has been acquired in this country in the two Presidency cities of Madras and Calcutta, hence he knows the people, their customs, the chief local diseases, and the climate well. (2) He has been a careful observer in matters sanitary always, and, perhaps, I may add, a man devoted to his work. This devotion means more than drawing pay and getting furlough; and (3) he has been a careful and a watchful observer of all or most of the plague measures that have been adopted in this country. My chief reason for telling the world what all sanitarians already know about Dr. Cook is because one of the reasons recently given in Bombay for not holding a Congress in this city to consider the subject of plague

measures in December next was that every competent person had already written and published all he had to say on the subject. Now this public notification by Dr. Cook about plague measures, which was published in *Times of India* on Tuesday last shows that every one who can write with knowledge and authority about plague measures has not yet been heard. Apart from that fact, I look upon Dr. Cook's notification as a most opportune contribution to a subject of immense importance to the people of this country, because it moves on the two safe lines of common sense and experience, and avoids all harsh measures.

I trust I am infringing no rule either of propriety or etiquette if I venture to point out that it was Lord Sandhurst who first broke the neck of the gross sanitary error involved in coercive segregation, by officially pointing out the uselessness of the measure after a six weeks' experience of it, and at a time when it was being carried out in the most heroic manner. The pronouncement then made by His Excellency was everywhere concurred in, and it will remain an official record for all times, seeing that it cannot be gainsaid.

Dr. Cook's paper opens by noticing how European works on public health recommend how epidemic diseases should be dealt with. These authorities, in addition to ordinary sanitary measures, recommend a trust in three special sanitary measures, viz., notification, isolation, and disinfection. But they have had no experience of plague epidemics. As a consequence of this sanitary teaching the epidemic plague visitations in this country have been treated on what may be called book knowledge or book principles, and the discovery has now been made that plague epidemics differ a great deal from all other epidemic diseases, and are not so easily controlled (if controllable) at all when they have assumed epidemic dimensions, as are the other epidemic diseases. Dr. Cook says, and every careful and unbiassed observer who is not already engaged in running a plague suppression show, agrees with him, that Indian experience teaches that notification, isolation, and disinfection have proved failures; notifications, because the people refuse to aid in it, for fear of isolation and its consequences; isolation, because no removal of stricken persons from their houses can possibly diminish a plague when the plague infection keeps hold of the premises; and disinfection, because it has been found impossible to kill a plague with disinfectants.

In Bombay we have had the same experience of the worthlessness of these measures, an experience extending over two epidemic visitations. Our second experience more than confirmed our first experience, because in that second visitation we doubled our staff quadrupled

our expenditure, and added tenfold to the rigour of the rules. Then and then only, did we learn what might have been learned during the first visitation. The worst part of the failure of these book measures was that they exercised not the slightest influence in preventing a recrudescence of the disease, or ameliorating it when it appeared.

Dr. Nield Cook has observed this failure, and he appears to have studied it carefully, in view of the possible rise of an epidemic in Calcutta, and perhaps in Lower Bengal. As Health Officer of the Metropolitan city in India he feels himself confronted with a tremendous responsibility, a responsibility of a double kind: (1) the responsibility of guiding a great city through a great insanitary crisis with as little damage to health as possible; and (2) the responsibility of preventing sanitary intentions and sanitary measures becoming measures of oppression to the people. He has discovered that troops and military arms, and rattan birches, form no part of sanitary armament, believing that unaided plague kills human beings quite fast enough without being aided by overpowering fright, and he proposes to treat any plague visitation that may occur in Calcutta by other and less violent means. As one alternative means he proposes prophylactic vaccination with the Haffkine serum. There is a plenty of reason for giving this serum a full trial. Though the other alternatives of Dr. Cook's measures for dealing with a plague are not set forth in the paper I am now considering, it is plain from his remarks that segregation is neither to be trusted to nor enforced. In his resolve he will have all the people of India on his side. It was this separation of families by ruthlessly dragging out of their houses persons suffering with plague that raised the discontent in Bombay, in Poona, and in Karachi and elsewhere. The grounds of the fear of the people may have been questionable, but the fear itself was real and attended with very great danger, and worst of all, the people, rich and poor, gentle and simple, were fully convinced that they were being forcibly dragged out of their houses to serve the purposes of an experiment based on sanitary error. The error consisted in supposing that all the plague infection in a stricken city existed inside and outside the bodies of infected persons and nowhere else. Hence persons infected were removed from houses and persons not yet infected were permitted to remain in occupation of the premises. In the active pursuance of coercive segregation about ten or fifteen thousand plague-infected persons were removed from their houses to segregation hospitals. It is true the bodies and blood of the patients contained the plague poison, and they were declared to be highly infective centres. But alas for this theory! these thousands of persons lived or died in the segrega-

tion hospitals without infecting the hundreds or the thousands of healthy persons who lived among and attended them, except in the minutest proportion. The number thirty would probably cover all the persons who were infected in the public hospitals. Dr. Choksey, all his nurses, all his staff, and all the friends who attended his 3,000 patients should nearly all have been killed off if the 3,000 plague-patients he treated had any considerable infective power. To be in the very midst of these supposed infective centres in the segregation hospitals was apparently the safest place in Bombay during the height of the epidemic, and to be wrestling with naked delirious patients supposed to be filled with infection was perfectly safe for the friends and attendants. No one was infected by contact with a plague-patient. While the people were carried away the premises in which the poison was produced and multiplied were left to be treated by absolutely useless disinfectants. The consequences were that both our Bombay plagues lived out their times and died in the fullness of age—the plague did not suffer, but the people suffered all the horrors of separation, fixed bayonets, and killing fright.

If we in Bombay have given Dr. Nield Cook a sound foundation for his new sanitary belief—I say new sanitary belief, because Dr. Cook, like all the rest of us, has learned a great deal about plague measures which he did not know before,—we are glad that the teaching from Bombay has reached the Health Officer of Calcutta, for assuredly it will confirm him in the newest and most modern views of dealing with a plague. For we feel assured that should occasion arise in the future for dealing with a plague epidemic, either in Calcutta or elsewhere in India, the former and now-exploded system of coercion and oppression will find no place in the sanitary measures of the future. This city and this presidency have furnished the experiment that was required to convince all mankind that notification, segregation, and disinfection are useless measures of plague suppression, and we make the whole of India a free present of this dear bought experience. Up to the present we have gained some knowledge about plague and plague-measures which we had not before; but the most confident among us will probably be willing to confess that we have something yet to learn. I look forward with much expectation to the assembly of a congress of the profession to help us out of our ignorance, and to clear the way for any possible future contingency. Meanwhile many thousands of people will thank Dr. Cook for the aid he has already given in making clear the errors of our past plague policy, and foreshadowing a benign and a benevolent future sanitary rule.—Yours, etc.
—*Englishman*, May 2,

THOMAS BLANEY.

A PLAGUE MADE TO ORDER.

In cases of alarm caused by fire in a public building, at a time when it is unfortunately crowded with people, the death-roll of the victims and the consequent horror of the disaster are heightened a hundred-fold by the mad panic that steps in. For, in every possible case, if every one kept cool-headed, there would be ample time for even a bumper audience to file past composedly through the narrow outlets, which they at once block in their mad stampede; and, as a rule, in that struggle for the survival of the fittest, many more are crushed or trampled down to death by their panic-stricken fellow creatures than are actually consumed by the devouring element.

Nor is it necessary indeed to have any devouring element at play. In crowded churches or in places of public entertainment, it has proved enough oftentimes that the dreaded cry : Fire ! Fire ! should be raised by malevolent individuals to cause the stampede, the rushing out, and the crushing down of many an innocent victim. In such a case, panic is the only destroyer at work, and the deed of the malefactor, suppose him even an irresponsible joker, makes him guilty before God and men of the crime of wholesale murder.

Of such a practical joke, though it can hardly be called irresponsible, our City of Palaces is now the unfortunate victim. Never since the time we live in it, and that amounts to more than thirty-three years, has the health of the city shown such satisfactory returns. Even under the mad excitement and hysterical terror, caused by a mistake worthy of an official bungledom, the average of deaths in the city keeps well under the average of the last five years, and the columns set apart for plague-seizures and deaths from Plague are conspicuous by their innocent state of blankness. To start from one suspected case or two, about which our local Doctors disagree, and to pronounce Calcutta infected, on the authority of a foreigner, who is as little acquainted with our Indian Society as we are with the Muscovite, is an instance in point of the terrible proverb : *Quos perdere vult Jupiter, prius dementat.*

To talk of segregation hospitals, under such circumstances, in the midst of a most impressionable native population is a suicidal policy. Knowing the native mind, and having before one's eyes the experience of Bombay, one can see that segregation is practically impossible. It would lead only to greater concealment and to consequent self-deception. Poor wretches, quite innocent of the plague, but smitten by any of those ailments that our human flesh is heir to, and which take the variegated forms of fever, will be secreted by their relatives, in stinking and stinking den-holes, where death will be accelerated by

quack treatment and discomfort. A moderate estimate has been calculated that, if ever the Bombay Plague takes root in Calcutta, one-third of the genuine cases will escape detection, particularly among the weaker sex, and a large number of deaths from bogus cases will be brought on, through unwise treatment coupled with the utter neglect of hygienic sanitation.

If this is unavoidably to be the result, and it becomes known as such to the wise framers of the Venice Convention, even the most stringent proclamation of segregating measures, supported by strongest *manu militari*, (which in itself is already an impossible supposition, with the methods of governing India, as they are recognised at home) would be in their eyes a mere delusory measure, a thing satisfactory enough on paper, but known to be only inadequately enforced, owing to the caste prejudices of the native populations. Evidently when the Venice Doctors pronounced segregation necessary, they meant segregation to be a real thing, not a sham; and it can only become a real thing when the bulk of the population interested in it give their hearty cooperation to the medical and police authorities.

But would the Venice Convention make the enforcement of segregation compulsory upon us, under the present circumstances?—Government, it is stated "must notify to other Governments the existence of plague in any infected district, alongside with a statement of the measures taken to prevent the spread of the evil. 'But the area to be deemed infected is strictly limited to the actual district, town, village, where the disease prevails, and no locality is to be deemed infected merely on account of the importation into it of a few cases of plague which have led to no diffusion of the malady.' This seems to be our case or rather it excepts circumstances worse than our own." For even since the unwarranted official pronouncement that we now have the plague amongst us, with the consequent panic, the ill-advised premonitory precautions, the rush out of two hundred thousand people under all possible circumstances of exposure, privations, over-exhaustion by fatigue, and suffocation in crowded trains or congested shelters, the Plague-Ghost alone is stalking amongst us, the Plague itself still mercifully keeps away.

And yet, amidst our innocence of that state of contamination, we are made to bear all the dismal consequences that would attend its real appearance. Calcutta is now believed by the outside world to be infected. The news will travel abroad: it will ban our commerce; it will cause our harbour to be boycotted. We are told that in a few days the loss from this cause is already totalled up in lakhs. At the same time, the dread of the Haffkine inoculation has scared away so

many of our poor native drudges that our Municipality can scarcely find men to carry out its conservancy arrangements. The filth of our streets is accumulating and the stench intensifying. Some of our sewers are ineffectually flushed, and in some of them the night soil threatens to overflow. Our bakers and other bazar suppliers are diminishing with a vengeance; let also our *bhistis* and our *mehtars* disappear, and we shall be left alone to stew in our own gravy, with Dr. Haffkine's serum for our only consolation, and with the certainty if we are spared the plague, of dying by cholera, starvation or typhoid. It is bad enough to bear the penalty of the sin of plague, when one is guilty of it; but, when we are convinced of our own innocence, the infliction becomes an unmitigated cruelty. Add to our woe the harm done by some disaffected spirits, who evidently labour at spreading difference between the rulers and the ruled. Our Lieutenant-Governor has wisely taken the step of declaring the inoculation optional but the mischievous concoctors of bazar-gup, spread the report that the L. G. is overruled by the "Lard Saheb," that supreme orders have come from Simla to enforce inoculation, at all hazards, and that the L. G. has in consequence resigned. Stupid as this *canard* is, the lower classes greedily swallow it, and not later than last Sunday, there was another exodus. Unless some milder influences prevail over our Calcutta atmosphere, we shall soon have a local realisation of Macaulay's New Zealandish prophecy that a traveller from now-triumphant-and-without-a-rival Bombay will take his stand on a half submerged pontoon of the forlorn and broken asunder Hoogly Bridge to sketch the ruins of our Post Office.

When we said there was no reported case of death as *certainly* caused by the Plague, we meant *directly*, of course, and not *indirectly*. For we have heard of a poor native old Hindu woman being scared out of her wits and soon after out of her miserable existence, by the distorted and exaggerated report of the horrors of the inoculation process. If Mosoo Haffkine's process were actually contaminated with half kine, it could not work more deplorable results on the minds and hearts of our native fellow-subjects.—*Indo-European Correspondence* May 11, 1898.

THE MATERIA MEDICA AND HOMŒOPATHY IN RELATION TO MODERN SPECIALTIES.

By CONRAD WESSELHOEFT, M.D.

It gives me great pleasure from time to time to enter a plea in behalf of the *materia medica*, and to protest against an increasing use of harsh old-school therapeutic methods to the neglect of the milder and beneficent ones of homœopathy. It is particularly to be regretted that this happens on the part of specialists affiliated with us.

I might embrace general practice in my plea, but as the argument would be on somewhat different lines, this is for the present postponed to another time. Yet it is true in both cases that the neglect of the *materia medica*

according to the homœopathic principle rests on the argument that it is too difficult a study; but it appears rather plainly on the surface as well as beneath it, that the more conspicuous manipulations, both medical and surgical, borrowed from the old school, offer greater attractions to patients, especially if these attractions come in the form of novelties every two or three years, imported from abroad. We notice here a lack of originality together with a neglect of older though less conspicuous methods of milder beneficent homœopathic means. There is no excuse in the circumstance that, on the other hand, we have seen in the past *materia medica* run wild, provings have poured in, and were as wildly published as they were wildly made. For all this, the *materia medica*, if properly applied according to the homœopathic rule in non-surgical cases, is vastly more perfect and prolific of good results, than the ever varying novelties under the names of the methods of Professor This and Professor That.

The only course that will eventually put an end to these doubts and digressions will be properly conducted hospital reports based on comparison of all methods. Such reports require skill, and money to pay for them, but unless we have them, we shall continue to be lost in the wilderness of methods.

Much of this indifference on the one hand, and excessive zeal on the other, seem to me due chiefly to the present dominant interest in specialties, to which new ones are still being added. It is less refreshing than amusing to see each new fledged specialist warn his hearers against the danger of trusting the general practitioner, and to see him strenuously point out that it is his particular specialty which is the key and alone able to unlock the mystery of every case. Thus the ophthalmologist was supposed to be the only one able to detect Bright's disease, or to cure a headache. The uterine specialist long claimed that all aches and pains of women were due to the organ to which he pays most attention; and so on.

It is no wonder that in the midst of such exaggerated claims, the attention of the younger generation should be attracted to such specialties, all to the detriment of the *materia medica*. Why? Because the modern specialties are, almost without exception surgical specialties demanding in their execution if not strictly surgical appliances, yet local treatment almost exclusively.

This surgical and local treatment has no relation to the *materia medica*, but it is more congenial to the specialist, and appeals more to the senses of the patient; he sees the operator, and perceives his appliances. He hears the crackle of the electrical machine, he sees the spark and the operator, at work. The atomizer and the spray for the throat, the washes and detergents for the skin, and the specula, sounds and tampons for the pelvic organs powerfully impress the female patient; all modern appliances of brass, glass and light, have an uncanny fascination; taste, smell, touch and sight are all called into play. Nothing of this kind happens to fascinate the student or the patient in the presence of the general practitioner whose thoughts can not be read nor interpreted by his methods,

as he rather avoids local measures, giving his attention to the correction of the blunders of living and to the materia medica according to homœopathic principles. These things are too unattractive for the modern specialists and his patient, although their advantages far outweigh their display of activity, and the result is that the materia medica is left in the shade, while many are always ready to exploit their specialties.

Do not mistake this as in opposition to specialties; I intend to oppose them just so far as they deprive themselves of the one thing which would make them famous—the study of the materia medica as practised under our law of cure. Just so far as they draw too many persons away from the study and application of the materia medica, that is, away from correct provings, away from careful drug selections, and in imitation of the old school, away from safe dosage, substituting for it a loose empiricism creating a market for unsafe compounds, and setting the example for unsafe dosage.

We need specialties as we need a division of labor; if we need a special knowledge and skill for diseases of the eye, the ear, the throat, in like manner do we need a specialty of materia medica and special knowledge of its nature, and the methods of its application.

This brings me to the point where I am enabled to point out just where the desired information is to be had. When Hahnemann had completed his *Materia Medica* as far as he was able, he distinctly said that this was only a beginning, (Org. §145-162), and left it to others to continue the work. Others have continued the work, and in the last fifty years since Hahnemann's death, the materia medica has grown exceedingly; in proof of this witness the ponderous volumes of Allen's Encyclopedia, and Hughes Cyclopædia containing more than 300 provings above the number given us by Hahnemann. A great many of these are excellent and deserve the closest study, through the employment of which a great many diseased conditions can be cured much more safely, and certainly much more gently than by the mechanical and purely local methods so much in vogue to-day.

In order to become familiar with this *armamentarium medicamentum* I would earnestly suggest the reading of Hughes Cyclopædia, its arrangement into anatomical rubrics, and the making of a repertory for each one by himself. In this, each one will be greatly assisted by the forthcoming repertory edited by that trustworthy ever indefatigable worker, Dr. Richard Hughes himself.

As has been said at other times, the work of acquiring knowledge of materia medica would be greatly enhanced by an occasional proving of some drug upon our own person. And having acquired this insight, it must become apparent that all specialties are represented in the materia medica. They are represented, not in their surgical aspect, or in that of local treatment, but by the specific relationship of drugs to the manifold symptoms of diseases of special organs forming the subject of specialties.

The diseases and their manifold variations, of the eye, the ear, the throat,

the nose, of the digestive organs as well as those of generation, are all fully represented in the *materia medica*, and it is here that it becomes almost impossible for the student of the *materia medica* to separate, specialize and distinguish the disorders represented there in such a manner as to single out the diseases of some organ or region for the purpose and object of special study and treatment. The student of *materia medica*, in its wider sense, must become a general practitioner, as far as medicines are concerned, and the field is so wide that he can safely leave the narrower range of local treatment, consisting chiefly of "spraying" and limited surgical treatment to the "specialist," while this specialist in applying the *materia medica* to the diseases of the organs he has selected, must of necessity be too much inclined to disregard the indications which must naturally arise in other organs or regions, unless he has once been an experienced general practitioner.

This is not the weakest side of the modern tendency towards extremes of specialization; but I must refer to the tendency on the part of specialists affiliated with homœopaths, to leave more and more the rational, mild and scientific methods of homœopathy and to fall deeper and deeper into those of the old school. It is from this that specialties have emanated, and with them the same crude methods of local treatment which homœopathy proposes to replace by better ones, more agreeable to the patient, and more fruitful in curative results. If specialists would omit their harsher local treatment, and old school ways, it would elevate specialism to a higher plane. If for the perfunctory routine of sprays with astringents, or stimulants, or anodynes, and tonics, in throat and vaginal disorders, they would have the courage to try our milder remedies in dilutions and triturations according to homœopathic indications, and even to apply them locally, they would have results of which they need not be ashamed, and the general practitioner of homœopathy would not be called upon to treat eyes, throats, noses, pharynges, rectal and uterine disorders, not only not benefitted but aggravated by such crude old school medication.

Cases of acute and chronic ophthalmias continue to present themselves to the general practitioner where he encounters everted lids, inflamed and bulging conjunctivæ, dilated pupils, &c., which are not so much traceable to the original disease as to the exaggerated local application of sulphate of copper, nitrate of silver, and atropine. I am aware that among the ironclad canons concerning the treatment of iritis, atropine must be applied to prevent the formation of synechiæ and irregular pupils. This reminds me that it does not always follow that because one is a specialist his diagnosis is on that account always unerring, and that he may find his case getting worse under harsh local treatment. A doubt as to diagnosis is always possible even at the hands of the most expert; but errors resulting from harsh treatment are not excusable. I am sure that if specialists affiliated with the homœopathic school, would be so more in name than in their work, and would have the courage to try it, especially in the treatment of those cases in which the most expert might waver in his

diagnosis, he would save the patient much pain, and his disease would often be much shortened. Aconite, Belladonna, Rhus, Bryonia, etc., will do all that can possibly be done in such cases, especially when combined with the cool wet compress, so much neglected in these days in favor of ice and opium.

Headaches now less frequently come under the care of the general practitioner, since it has become current among the public that spectacles alone can cure them. The tendency seems to be that each specialist becomes impressed with the notion that all diseases are due to the disturbance of the organ to which he pays particular attention, or else how could such articles as the following be accounted for. Thus we read in one of last years numbers of the *N. A. J. of Hom.*: "Can the general Practitioner Diagnosticate Ocular Reflexes?" (I quote from memory, having mislaid the number). In another number of the same journal: "The Responsibility of the General Practitioner in Diseases of the Ear." (Sept. 1897.) To reverse the first of these titles would be quite in order: Can the Oculist diagnosticate nervous reflexes? By the latter are meant all varieties of neuroses—hysteria, hypochondria, neurasthenia, paralyses—all supposed to proceed from visual disturbances. In the last named article the thousands of cases of deaf-mutism named in our public statistics, are, as it were, given in proof of the negligence of the general practitioner who forgot to call in the aurist at the birth of every baby he attended. No more should be expected of the general practitioner than the specialist can do himself.

A general practitioner or specialist who is unable to distinguish a headache caused by visual disturbance from one due to other causes is, I trust, very rare, as rare, I might say, as the headaches caused by eye-strain. When such cases present themselves and when the glasses have been worn without effect, they yield to the usual rules of diet, to the omission of injurious food and beverages, and, if not relieved by that alone, they are often cured by single simple remedies chosen according to our time honored maxim; the remedies not to be given too high nor too low, but singly, and not mixed or alternated.

Many medicines are indicated in headaches, but no rule can be laid down, because these headaches are due, rarely to the eyes, but to a variety of causes mostly to be sought for among errors of living, and these are to be considered before any medicine is to be thought of. Indigestible food, insufficient food, insufficient sleep, overwork with an underfed body—quite as likely to be found among the well-to-do as among the poor—and often business or family cares, are the causes in by far the greater number of cases. If we fail to inquire into these matters, or, if, having disregarded them, we administer the best selected remedy, or eye-glasses, we must expect disappointment. But having corrected these errors by clearly written and enforced directions, the rest will generally yield to proper medication; in the exceedingly few cases of that peculiar pain in the head, mostly supraorbital, caused by eye-strain, wear glasses by all means.

In the realm of non-surgical throat diseases, we meet with a similar

condition, and I might say, confusion of affairs. To whom shall the patient apply? The patient also has trouble in his nose, and his hearing is impaired. To whom shall he go? To the throat, nose or ear specialists? Or to the throat and nose specialist? Or to him of the ear and nose. I, for my part, as patient, would prefer the first, especially if he included in his specialties the organs of the chest, abdomen and those of the pelvis, besides a good knowledge of the nervous system and its diseases.

Now, the ear, nose and throat are admittedly subject to certain morbid conditions which are proper subject for surgical skill; the removal of adenoid growths, or of exostoses or other irregularities of the nasal bones, operations upon the drumhead, etc.,—all require a specially trained eye and hand to the skill of which the general practitioner gladly yields.

But it also deserves to be remembered that such cases are comparatively rare as compared with the vast number of functional disturbances and grave neuroses which are not within the reach of surgery or even local treatment by sprays of styptics, tonics, astringents, etc., which were all carefully enumerated at one of our meetings, and which all resolved themselves into the use of certain ready-made nostrums. It is to be regretted that this is so, for it must be apparent to every one that those non-surgical disorders readily fall within the reach and means of the materia medica about which the general practitioner knows at least as much as the specialist. This was one of the numerous instances showing how the specialist who is affiliated with homeopathy, is allured by the perfunctory use of old school harsh measures. I, for my part, would gladly and confidently compete with him by using rational dietetic and hygienic measures first, and then what I know of well proved and prepared medicines, given according to the now so well tried homeopathic method, which should firmly claim its place beside other methods, instead of being crowded out by the dominant school, which, in its acknowledged therapeutic helplessness, is dropping to pieces, as it were, into innumerable surgical specialties, whose uncouth therapeutic habits are carelessly borrowed by our own students. How I would apply in detail the materia medica, I have stated for twenty years in my lectures, and will not repeat it here. If I have ever doubted these methods, or have fancied myself disappointed in them, and have been led to try those inculcated by specialists of the old school, I have always speedily learned my error by greater disappointment, and was glad to return to ways which, "I know better, and which in the end gave me better results. I say "gave me" better results, but how about the patient? All physicians must regret that what seems to them as great success, appears to the patient as quite unimportant, and physicians find to their sorrow that some patients require something more than a cure, that is certain kind of impressiveness or impressionism from which a modest man shrinks. In regard to such patients, my uncle, the old Dr. William Wesselhoeft, said that if a patient use the frequent non-committal phrase of "I'm about the same," he (the doctor) would write

in his note book, "decidedly better." On such patients the *tuto cito et jucunde* cure is entirely thrown away; and though cured in a few days, they would have passively and joyfully submitted to the hard local treatment of styptics, cautery, plasters and counter-irritants for an indefinite period, under the suggestive delusion that something was being done.

I might greatly lengthen this list of local treatment usually employed by specialists, but will allude briefly only to those diseases of the male and female generative organs for which tradition prescribes various local measures. It is to be regretted that even specialists affiliated with the homœopathic school consider the diseases of those organs amenable only to local treatment, when there is abundant testimony to prove that the gentler and simpler methods of our school are far safer and more efficient. It is to be regretted that particularly in cases of gonorrhœa of the male, local treatment by styptic and astringent injections are supposed to be the surest and speediest, while in reality all cases of stricture—in my experience without exception—are due to harsh local measures, but in no case to gonorrhœa alone. It is equally true that the most inveterate vaginal and uterine catarrhs are too often due to protracted and uncontrolled hot or cold water injections, varied by styptics and medicated tampons of all kinds.

While such applications when properly controlled, may be useful in a minority of cases, it is nevertheless true that the greater amount of good can be done, that is, cures achieved, by the milder homœopathic method. If we cannot always cure by it, the avoidance of harm is one of its greatest advantages. With time, patience and courage to wait, much more can be accomplished by that method than by trying in vain to do in a few days what really requires weeks or months where a disease has already existed for years. The importunities and impatience of the "patient" should not influence the actions of the physician, and it is to be hoped that specialists, especially those affiliated with homœopathic societies, and graduates of colleges where homœopathy is taught, will practise its methods. Although modern specialties have emanated from the old school, it does not follow that they should carry with them the condition that their mode of prescribing medicines must be implicitly imitated. Indeed, I do not think that I stand alone in the conviction that when homœopathic practice shall have become more general, that is, *when the immense wealth contained in its materia medica shall have been better understood and appreciated, many of the present specialties, into which the old school is being dismembered, many of the present specialties will be again united into one of much wider scope.*—*American Medical Monthly*, March 1898.

PROFESSOR OSWALD'S INVESTIGATIONS AND HOMŒOPATHY.

Translated from *Allgemeine Homöopathische Zeitung* for the Homœopathic Recorder.

MY HONORED COLLEAGUE : You have requested me to make some remarks from the point of view of the homœopathic physician with respect to the very gratifying researches of Professor Oswald which have been published in full through your paper, and I only now find time to comply with your request. In doing so, however, I shall confine myself to a few points, since most of the conclusions which result from Prof. Oswald's publications involuntarily impress themselves on every thinking reader.

I would first of all like to point to the fact that, supposing the experiments of Oswald to contain no error in their arrangements, we have in them a means of demonstrating the presence of a number of organic and inorganic chemical combinations in homœopathic *trituration*, and this, indeed, in a state of unusually minute and subtle comminution, such as probably corresponds, according to the statement of the experimenter himself, to the limits of the most sensitive analytical reaction of the spectrum ; for in these experiments the only question was the demonstration of the presence of most minute particles in a state of *solid* aggregation. The proof itself consists in the immediate perception of rigidity or crystallization in a supersaturated solution. Consequently we perceive a physical phenomenon, and from this we are compelled to acknowledge the presence of solid particles of the substance in question in the homœopathic *trituration* examined.

It is worthy of note, that the substances here considered are mostly of an organic nature, which can never be investigated by spectral analysis. When we find that tartrate of potassa and of soda are regularly found active even in the 8th Decimal *trituration*, and that, in a number of other substances even the one hundred thousandth part of a milligram is still recognizable, this latest increase in the exactness and subtlety of experimental analysis is a matter of great satisfaction. Now of what nature is the exhibition of energy which here furnishes us with new means of quantitative identification ? It consists in a change of condition with respect to the state of aggregation, and we may call it a *vis formativa*. The fluid before homogeneous becomes a mixture in a physical sense : by allowing a particle of the *trituration* in question to fall in, a certain quantity of the same substance is separated in a solid form. We see here how an extremely minute impulse may produce transmutations which are disproportionally large, quantitatively considered. Theoretically considered, the smallest particle of the 8th Decimal *trituration* may be sufficient under certain circumstances to cause a correspondent change in masses as large as the earth if existing in the form of a supersaturated solution. The state of matter in which the simple touch of matter in a different state of aggregation, i.e., a solid particle of the same substance suffices to transform matter into the solid state, Oswald calls *metastability*. This opens an interesting vista into the transmutation

occurring in the inorganic world as well as in the world of life. In a similar sense Oswald opines that the elements and combinations occurring on earth may be in a state of metastability with respect to living organism, so that they may by the mere touch (reception) come into such a state that they are transmuted into constituents of a living body whenever a homogeneous tissue comes into connection with them. This again is merely a theoretical expression for the absence of a *generatio equivoca*.*

Returning from this extended vista, let us consider as homœopathic physicians how these observations of Oswald may be of use in enlarging our views. First of all we recognize in them a progress in the quantitative recognition of our cause, in so far as the physical energy of the minimal has been scientifically investigated and established in a new domain, with a recognition and with the use at the same time of Hahnemann's method of comminution. In the second place, we have gained a new analogy for the relation of similars. We see that with respect to conformable substances those very energies are manifested which transmute the forms, so that from a very changeable, i.e., metastable state, there may be caused a new, solid state through impulse minimal, indeed, but directed very definitely in the direction of the *ison* †, and this minute impulse may transform quantities of indefinitely great dimensions. This very fact points to a very weighty analogy. The results obtained when we give a homœopathic remedy appropriate to a certain case of disease are surely quite similar to the case in question. If the ingested, highly potentized drug has no affinity with the actual morbid cause, i.e., if the natural effects of the two are not largely concordant, we do not see any exhibition of energy at all, just as little as Oswald obtained any result from dropping a crystal of natrum sulphate into a supersaturated solution of salol. But when the minutest crystal of salol capable of existing by itself falls into a supersaturated solution of salol, then we have the analogy of those cases of disease which have been treated with a higher potency of the remedy exactly agreeing with the symptoms. The *direction* of the energy ingested agrees exactly with the direction of the chemical morbid irritant and the *quantity* of the energy is quite a secondary matter as the slightest impulse operates in the direction called for according to the measure of the living reactionary and curative activity of the organism, but by no means according to the quantity of the drug ingested, since this serves only to give the direction independent of the quantity; just as in the crystals of Oswald which cause the reaction, it is only its existence in a condition of solid aggregation which is required, but not any particular dimension. Oswald e.g. made the observation and conclusion that salol, although demonstrably present in the 4th decimal, nevertheless there ceases to possess the properties of a solid substance. It is a matter of course that we homœopathic physicians will not identify Oswald's demonstrations as to the solid state of a body with the possibility or probability of the therapeutic action of remedies. The preservation of a certain *vis formativa* within the limits of certain dilutions is there dependent on its presence

* Spontaneous generation.

† Equal or same.

in a solid state ; as is well known, *we* are independent of this state in our therapeutic experiences. It is quite possible that within our narrower limits the law : *Corpora non agunt nisi fluid** has full force. The changes which after receiving homœopathic remedies we observe in the very changeable system of energy of a morbid organism consist surely in a mutation of the former state of energy and of its renewed establishment in physiological breadth and balance of forces. It is probable that for such a therapeutic solution a higher state of aggregation may be called for, but even in this state only the energies proceeding thence in a definite direction, changing the forms, need to be considered as active causes. The processes which may then be observed subjectively and objectively are : the restoration of states free from pain, the removal of other obstructions to the physiological action of forces, proceeding at an accelerated or otherwise striking enhanced ratio when compared with the processes of healing when left to nature alone, in so far as we have any data from which to judge.

The system of energies in a living organism is an incomparably more complicated matter than a chemical solution ; nevertheless we may find certain natural laws and retractions which are common to both. When we consider the energies, it comes natural to view them both as systems of forces, and the changeable nature of supersaturated solutions increases the propriety of comparing the two ; for as solutions are ready through their metastability to enter on the condition of solids in answer to a well-defined impulse so also the disturbed (morbid) organism tends back to a physiological mobility, † which may be viewed as metastability in certain oscillating breadths (see Grauvogl's Idea of Proportional Oscillation) ; the ingestion of homœopathic remedies, according to many observations, replaces the body, as it were, by jerks into this state. We need not and should not be astonished that in so highly complicated a system, the energies of whose separate parts under certain circumstances cause very remarkable vital phenomena striking to the senses, the change of condition caused by the homœopathic remedy frequently may appear as striking as the sudden crystallization of a supersaturated solution by means of the crystalline trace of Oswald ; nor that the limit of the action of our remedies which, as before said, are not limited to the solid form of aggregation, extends way beyond the dilutions tested by Oswald. It is well known that the human organism itself is the most sensitive reagent, and *all* reagents must at last be perceived through some sensuous mediation, and thus through secondary reactions in the apparatus of our senses. These organic instruments are like a sensitive lever which magnifies small changes taking place outside of the organism, *i.e.*, in many cases these only become appreciable through the sensitiveness of the organic material. The almost infinitesimally minute energy which issues from the luminous plate of a lightworm, and of which only a small fraction enters the eye, would not produce an appreciable effect anywhere except through the mediating sensitive lever of the retina, fashioned to perceive undulations of ether of precisely so subtle a character.

* "Bodies only act when fluid."

† German "Labilität."

Thus we find in the machinery of organic life connecting points with various qualities and quantities of energy, and these render possible the curative action of small definitely directed medical forces, as they induce processes of solution and release, i. e., indirect activities, activities which turn their objective side outward and thus become perceptible, while subjectively they affect the general feeling or man's consciousness. These are the objects of subtle, medical observation.

The experiments of Oswald offer many suggestive momenta for a scientific theory of homœopathic therapy. I am glad to say the fundamental features of the theory developed by me in former writings come forth rather confirmed by a comparison with Oswald's observations.

In fine, I would express a certain satisfaction that in the labors of Oswald the discoveries of Hahnemann occupy the honored position of useful work exact in its physical aspect, and are valued as such. Thus once again some small fraction of the importance of Homœopathy is protected on the field of general scientific life ; *when* will the way be opened for the assimilation of the whole of these memorable works and discoveries ? Answer : When the natural sciences shall have been enlarged and developed sufficiently in their views and their discoveries. Then at once will they be appreciated.—*Homœopathic Recorder*, Jan. 15, 1898.

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A CRITIQUE ON DR. HARVEY'S NOTE ON ANTI-
PLAGUE INOCULATIONS.

IN our last number we have given in full the Note on Anti-Plague Inoculations by Dr. Harvey, the Director-General of the Indian Medical Service. The Note was first published in the *Gazette of India* for May 7, and republished in the *Calcutta Gazette* for May 11, with the addition of an entire paragraph at the end, and of a few lines in the middle of the third paragraph from the beginning. We shall notice these additions later on.

The Note, coming from such a high authority—the first in official position in India, and on a subject of such vital importance at the present moment, was expected to be a satisfactory if not a convincing document. It was expected to contain a clear and full, if not an exhaustive, review of recent researches affecting both the preventive and therapeutic aspects of medicine, so as to pave the way for the discussion of the particular specific in question. But we must confess to much disappointment after having perused the Note. It appears to have been prepared in haste, as if under some occult influence which it was difficult to resist. The ideas in many places are confused and wanting in accuracy, and the opinions expressed are not quite consistent and bear evidence of the struggle of the author against himself.*

Having referred to the discovery of a pathogenic microbe by Kitasato as the true cause of plague, Dr. Harvey goes on— "Some such cause had for years been accepted by the profession as a matter of theory, founded on the analogous cases of small-pox, anthrax, and other so-called zymotic diseases, and the results of bacteriological work had led to the belief that a remedy might be worked out on bacteriological lines similar to that found in vaccination against small-pox, and the preventive inoculations against anthrax, cholera, diphtheria, etc."

Let us try to understand the exact meaning of the above quoted passage. If by "some such cause," Dr. Harvey meant a pathogenic microbe, then we must say that his referring to small-pox as an analogous case is not happy as it has no support from even the most recent advances of bacteriology. For the pathogenic microbe of small-pox, if there is any, has not yet been discovered. It is true that Cohn and Weigert have found cocci in variolous lymph, Hlava has found the *Streptococcus pyogenes* in the pustules of small-pox, and Garré has found *Streptococci* in the internal organs in a case of variola hæmorrhagica, and a *Streptococcus* in the pemphigus vesicles in a fatal case complicated with pemphigus. These microbes are, however, found in other diseases than small-pox,—in abscesses, in pyæmia, in septicæmia,—and therefore cannot be looked upon as pathogenic of small-pox. More recently Klein and Copeman have, indeed, found "a peculiar extremely minute bacillus as occurring in the calf-lymph and in human variola lymph in the early phases," which they look upon as characteristic, but as it has not been found possible to grow it on any nutrient media, its biological characters and its pathogenic specificity have not been ascertained.

Such being the fact, namely, that no specific microbe has yet been discovered which may be called pathogenic of small-pox, we think it is not at all correct to say that "the results of bacteriological work had led to the belief that a remedy might be worked out on bacteriological lines similar to that found in vaccination against small-pox, &c."

Vaccination was discovered long before bacteriology came into existence, and therefore could not have been based on bacteriological lines at all. And in point of fact, as practised up to the present

day, it is quite independent of bacteriology. Bacteriological work has nothing to do with it, having neither influenced nor modified it in any way.

We cannot believe that the Director General of the Indian Medical Service could be so behind hand in his knowledge of bacteriology as the above considerations would lead one to infer. But neither can we believe that he should have knowingly confounded the method of vaccination with the methods of the modern preventive inoculations against anthrax, diphtheria, cholera, &c., in order to give these latter a fictitious support, the support of the former. In vaccination as in variolation, the actual specific disease, *Vaccinia* or *Variola*, is produced by the vaccinal or the variolal virus. Whereas in the preventive and curative inoculations the object is not so much the production of the actual diseases against which they are intended, as the arming the system with germicidal or antitoxic powers or both by inoculations with the germs or toxines produced by them.

Dr. Harvey notices other experiments than M. Haffkine's, "some of which," he says, "have been failures, others more or less successful. Some have been intended as preventive, some as curative, some as both." In his Note as published in the *Gazette of India* he does not mention any of these experiments by name of their authors, but in the Note as published in the *Calcutta Gazette*, we find the following sentences after the above quotation: "Great hopes were at one time entertained that M. Yersin of Saigon had solved the problem, but recent results show that his serum prepared on the same lines as the anti-anthrax serum of M. Pasteur does not come up to expectation. Another curative serum devised by M. Haffkine has also failed, and a third by MM. Lustig and Galeotti now under trial in Bombay, while it seems to do great good in some cases, fails to effect much reduction in the total mortality." What is the sort of good here spoken of we cannot understand. For, if the serum really does great good in some cases, why should it fail to effect much reduction in the total mortality? Dr. Harvey should have been more explicit.

Notwithstanding this verdict upon Yersin's and Lustig and Galeotti's serum, the efficacy of both these serums is still being loudly trumpeted forth under the banner of statistics. We are

aware that the charge of irreverent scepticism may be brought against us for the observation, but we cannot help making it, that in skilful hands statistics may be made to prove anything and everything.

In contrasting as M. Haffkine himself has done his anti-cholera with his anti-plague inoculations, Dr. Harvey says with reference to the former that "a bactericidal power is conferred on the individual with *attenuated comma bacilli*." Now this is not correct, for in point of fact M. Haffkine uses two vaccines for his anti-cholera inoculations, one an attenuated or a mild first vaccine and then a much stronger, the strongest available, or an exalted vaccine,—two modified races of cholera virus, as the inventor or manufacturer delights to call them. The Director General of the Indian Medical Service should not have been ignorant of the fact, at least he should not have been indifferent to it. It is true that this mis-statement of the fact does not directly affect his argument regarding the anti-plague inoculation, but it leaves the public in ignorance of a fact which should weigh considerably with them in forming their judgment of all of M. Haffkine's methods and procedures.

We give below the following extract from M. Haffkine's paper on the Plague Prophylactic, published simultaneously in the *British Medical Journal* and the *Indian Medical Gazette* in June 1897, in order that our readers may have an idea, directly from the author himself, of the composition of the prophylactic fluid, of the mode of its preparation, and of the benefits that the author expects from it.

"The theoretical conjectures which led to the plan of preparation of the plague prophylactic were the following:—

The inoculation against cholera, made with bodies of Koch's comma bacilli cultivated on solid media, appears to result in a reduction of the susceptibility and of the absolute mortality from the disease, but does not affect the case-mortality.

In the light of present information this seems to be in connection with the production, in the inoculated individual, of bactericidal powers, and not of antitoxic, as has been actually demonstrated to be the case by Pfeiffer and Kolle.

There is the possibility of the bactericidal power being created by the injection of the bodies of microbes, or substances enclosed in them, while antitoxic properties may be communicated by the injection of the metabolic substances secreted or produced in the surrounding media. This conclusion is only a hypothetical one, and taken as a temporary guidance in the work.

In the present instance I have decided to make an attempt at effecting

both a reduction of susceptibility and of the case-mortality by combining in the prophylactic substance large quantities of bodies of microbes together with intensified extra cellular toxins.

I cultivate luxuriant crops of plague microbes by adding to the nutritious media abundant quantities of fat exposed to rich aëration.

For the preparation of the prophylactic, I utilise the fat of milk in the shape of what is called in this country "ghee," which is clarified butter, used not pure but suspended in large flasks on the surface of nutritious fluids employed for cultivations of microbes generally.

The growth begins first of all underneath the drops of butter in the shape of flakes and stalactites described above, leaving the liquid limpid.

When the fluid is filled with a rich jungle, the growth is shaken off the drops of ghee and brought down to the bottom of the liquid, leaving the butter on the surface free to produce a second crop of growth.

In the course of a month half a dozen successive crops are thus obtained, which fill the liquid when shaken with an opaque milky emulsion.

The microbes in this fluid are killed by heat at 70° C. maintained for one hour.

In a quiet position, in test tubes, two different substances are obtained—a perfectly limpid fluid, and a thick white sediment.

Injected subcutaneously into animals they produce:—

(1) The sediment—a local inflammation and a nodule at the seat of inoculation accompanied with little fever or general effect; and

(2) The fluid,—a considerable rise of temperature and general affection, with no noticeable local effects.

From the above it will be seen that the prophylactic fluid is the nutritious fluid (which is pure meat broth), in which the plague microbe was grown, containing bodies of microbes killed in it by heat, and the toxin or toxins secreted by the microbes or produced by their metabolism. M. Haffkine expects, from hypothetical considerations, that this fluid will have both preventive and curative properties which will reduce the absolute as well as the case mortality.

We learn from Drs. Wright and Bruce's paper in the *British Medical Journal* for Feb. 4, 1893, that M. Haffkine, when he first launched his Cholera Prophylactic, believed that as the human system was "bacteria proof," as regards the comma bacillus, the immunity against cholera could only be brought about by rendering the system "poison proof" with respect to the poisons of the bacillus; and that this was effected "by acclimatising the system first to a weak cholera poison (first vaccine), and afterwards to a strong cholera poison (second vaccine)." For adequate protection it was thought essential that the second vaccine should consist of the strongest cholera poison. So that at first M. Haffkine thought that inoculations with his prophylactic vaccines conferred on the system anti-toxic properties. Now (1897-98) he believes "in the light of present information this

(immunity) seems to be in connection with the production, in the inoculated individual, *of bactericidal powers, not of antitoxic*, as has been actually demonstrated to be the case by Pfeiffer and Kolle."

The reason he assigns for this latter belief, besides the actual demonstration by Pfeiffer and Kolle, is that the cholera inoculations are made with bodies of Koch's comma bacillus cultivated on solid media. Admitting that bactericidal powers are conferred by injection of bodies of bacteria, and antitoxic powers by injection of the toxins, we have to ask, if the cholera prophylactic contains only the bodies of the cholera microbes and not their toxins? The question, it will be seen, resolves itself into the further question, are these toxins produced only in liquid and not on solid media? If the toxins are the result of the metabolism of microbes attendant upon their growth and multiplication, they must be produced on solid as in liquid media. Hence the cholera prophylactic, as prepared by M. Haffkine, cannot be free from the toxins of the comma bacilli. All that may be said is, that the quantity of the toxins is too small to make any appreciable impression upon the system. But we cannot accept this without proof. Who knows but that the toxins may be in a very concentrated form in the solid media? We may add that Wassermann has shown that an animal treated with toxins alone was protected against both toxins and bacteria, while one treated with bacteria was immune as regards bacteria only, thus proving the non-identity of anti-toxin and bactericidal substances. He has further shown, "that in the case of the anti-toxic as of the bactericidal substances in protective serums a reaction of the tissues is essential to their efficacy, and that their failure results from the non-development of this reaction."

Dr. Haffkine admits, as he could not but, that in the case of cholera inoculations no reduction in the proportion of deaths to cases, or case mortality as it is called, could be established in any of the outbreaks where inoculation was applied; and he now ascribes this failure to the inoculation conferring upon the system only bactericidal and not antitoxic powers. He thinks, therefore, that "the result of the inoculations against plague, as far as known for the present, would justify the adoption of a similar *modification in the plan of all the future methods of preventive*

treatment, including the inoculations against enteric, intended to be introduced amongst the troops in India."

Here then we have a proposal from M. Haffkine of a second modification of his anti-cholera inoculation, and who knows but that in the light of further experiment and experience there may not be a fourth and a fifth modification of the same, and a second, a third and other modifications of his anti-plague inoculations? M. Haffkine not only admits the possibility of such modifications, but views them as indications of progress. Thus, commenting upon the fact that better results were obtained with larger than with reduced doses in the inoculations at Lower Damaun, he says: "This variation of the results, answering faithfully to the variation in the strength of the lymph, and in the doses given, shows the direct connection of cause and effect in the two series of facts, and makes it probable that it will be in our power to *improve* upon the results obtained in Damaun." We have no objection to such progress provided the experiments were confined to the lower animals. But when human beings are concerned, ought we not to pause and hesitate before we make our fellow-creatures the subjects, or, as we should rather say, the victims of our experiments?

"It must be obvious," says Dr. Harvey, "that an experiment of this kind must be tried on a large scale before any trustworthy conclusions can be drawn," and he is fully cognisant of the "many difficulties and possible sources of fallacy which will be met, and must be disposed of, before we are entitled to say that events following inoculations are effects and not sequences." And in illustration of these sources of fallacy he properly says—"Thus plague may disappear from a village immediately after inoculations have been done. It by no means follows that the inoculations have been the cause of the disappearance. The disease may have come to end at this particular time, and the inoculations may be no more than a coincidence. Similarly, exemption of a jail or other inoculated community may have no connection with the inoculation, but be due to the fact that the plague bacillus has never been introduced, in which case there could have been no plague, though no inoculation had been done."

Dr. Harvey, we are glad to see, lays down with due scientific

caution the conditions under which the relationship of cause and effect may be drawn from statistics. "It is only when plague is actually present and when inoculated and uninoculated persons are living together under similar conditions in the midst of it, that we can *begin* to draw conclusions by comparing the incidence of the existing epidemic on the two classes; and it is only when a number of instances like the above have shown that under similar conditions similar results invariably appear, that we gradually substitute the relation of cause and effect for that of mere sequence; every additional instance strengthening the induction until we arrive at scientific proof."

So far we are in perfect accord with Dr. Harvey. The difficulty lies in the application of the rules here laid down. The similarity of conditions under which the inoculated and uninoculated must live in order to enable us to draw conclusions offers a practical difficulty which it is not easy to overcome. The kind and the duration of exposure to the infection of plague, and the mode of living which influences the reception of the poison, cannot be regulated with the precision necessary for scientific induction. And in addition, we have to take into account the different susceptibilities of different individuals which form a no less important factor in the contraction of the disease. Dr. Harvey has himself admitted that, "considering that the total mortality in both the Bombay outbreaks has been little more than three per cent., the chances of an individual escaping are very large—thirty-two to one."

M. Haffkine recognises and disposes of this complication as regards the statistics of the inoculations in Lower Damaun by the following remarks: "Considering the large proportion in which the number of inoculated stands to the rest of the population (2,197 to 6,033), it is evidently impossible that the inoculated represented the upper, or any other particular, class of the population possessing a degree of personal or local immunity much different from that of the rest of the population and to which their reduced death-rate could be ascribed."

It would have been more satisfactory if this assertion about the "evident impossibility" had been supported by actual records showing that the inoculated represented chiefly the poorer classes who are the chief victims of the disease. In absence of such

proof "this view," M. Haffkine thinks, "is confirmed by the following comparison of the mortality which occurred in the inoculated and uninoculated persons belonging to the same families, who lived *therefore* under absolutely identical conditions of life." Sixty-two families were inoculated partially, 250 members being inoculated, 124 remaining uninoculated. The 250 inoculated had 50 cases (20 per cent.), with 20 deaths (8 per cent., case mortality 40 per cent.); the 124 uninoculated had 54 cases (43.5 per cent.) with 37 deaths (29.8 per cent., case mortality 68.5 per cent.). We admit the difference here shown between the inoculated and uninoculated as regards the number of seizures and the mortality, but we cannot, without satisfactory proof, admit that the two classes lived under absolutely identical conditions; and so long as such proof is not forthcoming, the conclusion drawn cannot be said to be perfectly legitimate.

There is one fact which militates strongly against the statistics cited, and that is that the subsequent history of the large numbers of the inoculated has not been and cannot be known. Without this knowledge as to whether the inoculated were exposed to infection or not, and what became of them after such exposure, it is impossible positively to say whether the inoculations did confer a real immunity. Dr. Rogers goes further, and, we think, very justly says: "The fact that so many thousands of the population of Bombay have been inoculated since the end of January and have not contracted the disease proves nothing. These same people were presumably exposed to infection from August to the end of January, without being inoculated and without contracting the disease, which almost as soon as the inoculations were begun, commenced to be on the wane." With reference to the inoculations in Poona, Mr. Rand says: "It has to be remembered that the inoculations were not commenced till after the epidemic had reached its highest point, *that a large proportion of the persons inoculated did not live in a highly infected locality, and that most of them did not belong to the classes that have been the chief sufferers from the plague in Poona.*"

Dr. Harvey, after citing the statistics as furnished by M. Haffkine up to the time of writing the Note, remarks "that these cases go very far to show the great value of the process," and yet he does not hesitate to characterise the process as "too crude

and imperfect to justify any compulsion on the part of Government." But immediately, not quite consistently we believe; he adds, "though it (Government) might well consider the advisability of holding out inducements to inoculation by conferring certain exemptions from unpalatable restrictions on those who have submitted themselves to it." And to induce people to accept it he says that "the results so far arrived at go far to show that M. Haffkine is working on the right lines; that he has already obtained a measure of success which would justify the voluntary adoption of his method by the public; that there is reason to hope that still better results may follow from further experiments and observation; and that in time it may be possible to expect as much from inoculation in the suppression of the plague as we now do from vaccination in the stamping out of small-pox."

In order to judge of the preventive or prophylactic treatment of a disease by the virus of the disease itself, we ought first of all to ascertain if one attack of the disease does confer immunity against a second attack. In the case of plague we have testimony to the contrary. Dr. (Miss) Marion Hunter, who was late Plague Medical Officer at Poona, says: "Convalescence in Plague was slow, and, unfortunately, one attack is not protective against a second. We had several cases in hospital of a recurrence in less than six months." We have further the following examples given in the Report of the Parel Hospital, Bombay: "One attack does not confer immunity from another, as one patient had a second and fatal attack, and one had a relapse. The second attack was in a woman aged 40; convalescent 18 days; attacked 27 days after the initial symptoms of the primary attack; and died five days afterwards. The primary attack lasted nine days and the fatal one five days, and in the latter she developed a fresh bubo in a different site from the original one, had fever, delirium, stupor, coma, and unconsciousness. The general characters of an acute attack were present in the tongue, pulse, respiration, skin, eyes, intestinal canal, typhoid state and mental condition. Her temperature had been normal 18 days when the fatal attack came on."

Admitting that the recurrence of the disease after a first attack is rare, the fact remains that a second attack may take place after 18 days of convalescence at the earliest and within

6 months at the latest time that has come under observation. This fact warns us against repeating our crude laboratory experiments on human beings and drawing hasty conclusions from statistics which may be fallacious after all. We should determine, by experiments "on a large scale" not on man but on animals, how long the immunity lasts in different classes of animals. And in order to make this determination it appears to us absolutely necessary that the immunity should be tested not only by the artificially cultivated virus of plague but by the actual virus of the plague itself; for who knows but that the immunized animal may be immune against the artificial virus, but not against the veritable disease virus?

Another important problem to solve is, whether the immunized animal, after having lost its immunity, does or does not become more susceptible to the artificial as well as the actual disease virus? For, if the susceptibility is increased, and if the immunity is only for a short time, then the preventive inoculation may be really dangerous to the inoculated. To be inoculated for the remote chance of immunisation, and to be in constant dread of increased susceptibility from loss of immunity at an undetermined time, is certainly not a pleasant state of mind for any man. Experiments towards this end must be performed on animals before inoculations may be pronounced safe for man.

There is another problem, not less, perhaps more, important than the previous one, and that is, whether the inoculated, while immune themselves, may not be foci of infection to others. That infectious diseases, notably small-pox, measles, scarlatina, are spread by immune persons, pre-eminently by medical attendants, is a positive fact. Why may it not be the case with those who carry in their person the virus of plague artificially introduced? Dr. Harvey admits this possibility when he says: "If inoculation saved a man from forcible ejection from his house when plague is in the neighbourhood, if it allowed him to go freely about his business, if it saved him from detention in segregation camps and substituted surveillance for forcible detention, great stimulus would be given to the experiment, *and with proper precautions as to disinfection and identification, there would be little danger of the inoculated conveying the disease.*" Unless the inoculated are subjected every day for some days to a bath of corrosive sublimate, we do not think the danger from them can be averted.

So long then as these problems are not solved we must, with Dr. Harvey, pronounce the anti-plague inoculation as "crude and imperfect," but we must confess that we cannot, for that very reason, with any consistency, follow him in his recommendation to Government "of holding out inducements to inoculation by conferring certain exemptions from unpalatable restrictions on those who have submitted themselves to it." We do not say that there may not be a certain apparent temporary immunity conferred by the inoculations, but who knows but that such immunity might not be secured by inoculations with any disease virus, or by inoculations of a much more harmless character? From the paper on the "Beneficial Effects of One Disease as regards Another" of Dr. Harry Campbell, which we have given in full under our Gleanings, one may see that almost any disease may act prophylactically and curatively against any other, and that even traumatism of a severe character may lead to such beneficial effects. These facts should make us careful as to how we jump at hasty conclusions and thus outrage the true spirit of inductive research, especially in a field the most complicated by far of all, and which directly concerns the health and lives of human beings.

We quite sympathise with Dr. Harvey in his qualified recommendation of the anti-plague inoculation, in view of the dreadful mortality from the disease, which means the helplessness of medicine to combat it. We see in this recommendation the result of the struggle of his scientific spirit which compels him to pronounce the process as crude and imperfect with his sympathy for suffering humanity as a physician, which urges him to welcome any measure which has even the show and plausibility of being a remedial measure. We have discussed the subject from the stand-point of science under the conviction that a matter which professes to be based upon scientific induction should be subjected to the freest criticism in the spirit of inductive philosophy and the light of demonstrated facts. "Truth like a torch the more it's shook the more 'twill shine."

We think we have conclusively shown how much there is of uncertainty in M. Haffkine's anti-plague inoculation. It is uncertain how long the immunity lasts. It is uncertain whether, when the immunity has been lost, the inoculated may not become more susceptible to the disease. And it is uncertain

whether the inoculated, while immune themselves, may not be the carriers of infection to others. While so much uncertainty hangs about the matter, there is this positive certainty about it. It introduces into the system a virulent septic poison, and M. Haffkine thinks that the degree of immunity is faithfully proportional to the strength and dose of the prophylactic. Hence he proposes to increase the virulence of the poison in his future operations, in other words to introduce into the healthy human organism as virulent a culture as he can possibly make in the laboratory. This is far from pleasant to contemplate for those who would like to be inoculated.

Now the introduction of a septic poison into the system cannot be harmless, and in point of fact it is not so. It is likely to be harmful in proportion to its virulence. "The operation is painless," says Dr. Harvey, "but the serum causes a certain definite reaction in which the temperature rises to 102 F., and local irritation at the seat of infection usually lasts some days and is frequently severe." The operation, we have been told, is not always painless. But however that may be, there are other and graver symptoms which follow inoculation, of which Dr. Harvey makes no mention. Thus in some cases the temperature does rise above 103; often the headache is very severe and distressing; there is vomiting sometimes and occasionally diarrhoea; and, what is sometimes a matter of concern, the weakness may be very pronounced and long lasting. "A certain amount of anæmia and emaciation occurs in a few people, and some complain that they have never felt well since the inoculation." Mental excitement and a feeling of unrest, irritability of temper, confusion of ideas, long lasting dry cough, anticipation of the menstrual period, menorrhagia, sexual excitement, are some of the other symptoms developed. Are these to be trifled with because in a few of the inoculated certain chronic ailments as asthma, eczema, have been reported to have improved?

In one case, reported by M. Haffkine, an attack of hemiplegia took place two days after inoculation followed by death on the eleventh day. "The result of the medical investigation," says he, probably with a sense of relief, "was to the effect that the attack was unconnected with plague, nor with the inoculation." We fail to see how this conclusion could have been positively

arrived at. The fact that mental excitement sometimes follows inoculation, lends probability to the supposition that the apoplexy which led to hemiplegia and death might have been due to some sort of cerebral disturbance consequent upon inoculation.

In one case, in which plague was developed within 12 hours after inoculation, and death took place on the 4th day, M. Haffkine thinks it likely that the patient was already unwell when inoculated. But we must say that there is no evidence in support of this supposition. Who knows but that it might have been caused by the inoculation? In another fatal case he ascribes the death which took place in one day after inoculation to actual plague as the patient was suffering from plague-like symptoms at the time of inoculation. Granting M. Haffkine's assumption in both these cases, it must be admitted that the inoculations proved powerless to arrest the disease.

Such being some of the injurious consequences of M. Haffkine's inoculations, would it be safe to have recourse to them, especially where the occurrence of plague is doubtful or of a sporadic character without showing any signs of spreading by infection? That our educated community are quite willing to adopt any reform in medical practice when convinced of its genuineness, has been shown by a young Raja, a worthy scion of a noble aristocratic family, who, on the advice of those in whom he had implicit confidence, had his whole family and nearly all his dependents inoculated at the first opportunity. But while we admire such moral courage it is the more incumbent on us to see that it is not misdirected.

Another question of not less importance is the practicability of the method on a large scale. Dr. Rogers, we believe, is perfectly right when he says: "If even the efficacy of preventive inoculation in individual cases be fully established, its practical application would probably be limited to groups of the population, such as schools, regiments or prisons. The most ardent advocates of the system would hardly pretend that it could replace general sanitary measures, while the protection of an entire community, such as the population of the city of Cairo, would be practically impossible." Europe, it must be remembered, got rid of plague by general sanitary improvement, not by inoculation.

THE LATE DR. BRAJENDRA NATH BANERJEA.

We have to record with deep sorrow the death of a dear and valued colleague and friend, on the morning of Monday the 23rd of the last month, at the very early age of 43.

Brajendra Nath Banerjea was born in Calcutta in July 1855, at the house of his maternal uncle, the late Justice Anukul Chandra Mukerjea. He was educated at the London Missionary Society's Institution at Bhowanipur, whence he passed the Entrance Examination of the Calcutta University in 1872. He then went to the Calcutta Medical College where he graduated as L.M.S. (Licentiate in Medicine and Surgery) of the University in 1878.

After less than a year's unsatisfactory practice in Kalighat, the native village of his father, he went to Allahabad in October 1879, where in a very short time he became a successful practitioner. The outbreak of cholera in 1882 found him a convert to Homœopathy, which he practised with such earnestness, zeal and energy that he lost nothing by his new faith, but on the contrary his success with it was so great that his practice rapidly increased from day to day. This, combined with numerous self-imposed duties, told seriously upon his health. In the beginning (March) of 1886 he got hæmoptysis which was of such an alarming character and proved so obstinate that he had to leave Allahabad. In April he went on a change to Bombay where his health was soon restored by a medicine given to him by a Sanyasin (an ascetic), who was an utter stranger to him, and who told him not only what he was suffering from but even what were the constitutional complaints of his father and other relatives. Naturally of an occultistic turn of mind (he had become an ardent theosophist while at Allahabad) this singular incident deepened his belief in the supernatural. After a short stay of about a fortnight in Bombay, he came to Calcutta direct instead of going back to Allahabad, the climate of which he feared would not suit him, and to which he had to bid a reluctant farewell.

Calcutta received him well. Its climate suited him better than that of Allahabad, and this enabled him to settle permanently in our midst. In a short time his practice was even more extensive than in Allahabad. His skill as a physician, his urbanity, his kindness, soon gained him the esteem and affection and confidence of every section of the community. He bore well for a

long time the strain that his popularity as a physician threw upon his energies, physical and mental. But naturally weak in the lungs, the strain at last proved too much, and his health began to give way in 1894. The first recurrence of his hæmoptysis was in October of this year. But he minded it not. He could not resist the entreaties of the sick, though himself suffering. The result was confirmed pulmonary tuberculosis with violent periodical hæmoptysis. He used wonderfully to recover from these attacks. But they became more and more frequent, and, though latterly under the wise and judicious treatment and friendly care of Dr. Younan, he withstood his enemy longer than could be expected, he succumbed at last to gradually increasing exhaustion. The end was hastened by a bloody diarrhœa. He breathed his last at 8-30 A.M. of May 23rd as we have said above.

Brajendra Nath was a diligent student and a conscientious practitioner throughout his career. He used to contribute to the *Lancet*, the *Medical Times* and the *Indian Medical Gazette* before his conversion to homœopathy. After his conversion he used to contribute to this Journal. Latterly for some time he was contributor and co-editor of the *Indian Homœopathic Review*. In 1889 he was elected a corresponding member of the American Institute of Homœopathy, and in 1894 the National Medical College of Chicago conferred upon him the honorary degree of M.D. He was an ardent though not a bigoted homœopath. In him the homœopathic branch of the medical profession in India has lost a bright ornament, and a strong pillar, Bengal a patriotic son, Calcutta a most genial and useful citizen. To his family,—an old father, a young widow, five sons, and a married daughter,—his loss is irreparable. His patients and his friends will sadly miss him as they will not find his like again for a long time to come. His memory, we are sure, will be cherished with deep-felt affection by all.

EDITOR'S NOTES.

Fœtus Papyraceus.

Littauer (*Centralbl. f. Gynäk.*, No. 2, 1898) exhibited a specimen of fœtus papyraceus at a recent meeting of the Leipzig Obstetrical Society. It was expelled during a twin labour at term, and preceded its brother, which was well developed and delivered spontaneously. There was a common placenta, and infarcts were detected in the segment belonging to the blighted fœtus. The lower part of the fœtus was devoid of all anatomical form, but the upper portion had been subject to lateral compression, and retained its component parts so well that it looked like a profile portrait in a cameo. It seems to have died at about the third month.—*Brit. Med. Jour.*, May 14, '98.

Capillary Puncture of the Heart.

Bégouin (*Sem. Méd.*, January 29th, 1898) refers to the well-known fact that entrance of air into the jugular vein causes rapid death by asphyxia. This asphyxia is due to an accumulation of air in the right ventricle. By experiments on dogs and rabbits he finds that, when air has been insufflated into the jugulars, and asphyxia, which would probably prove fatal, has come on, if the air contained in the right ventricle be aspirated through a capillary puncture, the symptoms of asphyxia disappear gradually as the air is drawn off, and the animals soon recover completely. The author believes capillary puncture of the ventricle would be equally successful in man whenever this accident happens, as in the course of an operation.—*Brit. Med. Jour.*, May 14, 1898.

Passage of Substances from Fœtus to Mother.

Lannois and Brian (*Gaz. Hebdom. de Méd. et Chir.*, March 23rd, 1898) having had under observation a patient with grave symptoms of albuminuric origin, in whose case the symptoms suddenly disappeared on the death of the fœtus, though the latter was not expelled till seventeen days later, made some experimental inquiries, from which they conclude: (1) That substances (such as salicylate of soda, iodide of potassium, and methylene blue) injected into the fœtus, pass through the placenta, and can be detected in the tissues and urine of the mother. (2) This experimental fact supports the view already advocated by Lannois, that normal excretory products of the fœtus pass through the placenta to be eliminated by the maternal organism. (3) In cases of renal insufficiency these waste products of fœtal life can therefore in part contribute to the maternal auto-intoxication, and consequently can play a part in eclampsia and other accidents associated with the albuminuria of pregnancy.—*Brit. Med. Jour.*, April 30, 1898.

The Dangers of Blisters.

Huchard (*Bull. de l'Acad. Méd.*, No. 7, 1898), in the discussion following Robin's paper on Bloodletting, Blistering, and Emetics while agreeing with the use of bloodletting and emetics, attacked the

blister. (1) It often produces an open wound, which facilitates secondary infections or the absorption of cantharides. (2) Besides causing the wellknown inflammation of the kidneys and bladder it has a general congestive action. (3) Thus even in those diseases where it is most often used, such as pneumonia and pleurisy, it should be discarded, since, though it increases pulmonary ventilation, it increases also pulmonary congestion. (4) It tends to close excretion by the kidneys, so important in all infective diseases, and this is especially harmful in those normally causing albuminuria. Instead of aiding the excretion of toxins blisters are likely to produce a fresh intoxication. (5) The only real use of blisters is in their revulsive and analgesic action. This effect is best obtained by less dangerous means, such as mustard plasters or cold baths.—*Brit. Med. Jour.*, April 30, 1898.

Influence of Morphine and Ether on Uterine Pains.

HENSEN (*Archiv f. Gynäk.*, vol. lv, Part 1, 1898) publishes a very exhaustive monograph on this subject, furnished with instructive tables. He finds that morphine in doses of under a third of a grain exerts no influence on the force of the pains and of the abdominal muscles. Ether causes a distinct effect, as after one or two minutes the force of the pains is diminished and the interval prolonged. When ether is discontinued the previous force of the pains is restored in from five to twenty minutes. Under ether narcosis the abdominal muscles cease to aid in the process of labour. Chloroform produces similar effects on the pains, but when its administration is suspended restoration of the pains to their previous force of frequency is very much slower. Its evil influence does not disappear for quite two hours. Hence Hensen urges that ether should always be used as the anæsthetic in labour. It facilitates turning and forceps delivery as well as the ether compound, whilst its effects very rapidly disappear, a most desirable result when we remember the chances of *post-partum* hæmorrhage after instrumental labour.—*Brit. Med. Jour.*, April 23, 1898.

Milk Production under Scientific Control.

Nothing could be more satisfactory than the increased attention and care now being bestowed by large dairy companies to secure the production of healthy milk. Bacteriology has from its infancy indicated the necessity of scientific control in this industry, and it is satisfactory and reassuring to know that its teachings are not ignored. Again, most large producers find it necessary in view of the advance of public education to be prepared to provide milk of definite composition for infants and invalids. Thus, to take one example, we have before us a synopsis of the appointments, equipments, and products of the dairy managed by Messrs. Welford and Sons. The staff includes medical officers, sanitary inspectors, veterinary surgeons, and an analyst. The preparations include facsimile human milk, peptonised milk, sterilised milk, sweet whey, sterilised cream, sterilised separated milk, butter milk, koumiss, ass's milk, and milk for the

nursery. In addition to the steps which are taken to ensure the supply of nothing but healthy milk samples are also taken every day and analysed in the laboratory, all milk falling short of a standard quality being rejected. The procedure thus adopted by this important branch of industry might well be followed in other branches, and it is a tribute to the constant representations of bacteriological investigators that commercial enterprise has acted upon scientific teaching and has admitted the necessity of scientific control. By such a forward step the community at large gains not a little.—*Lancet*, May 14, 1898.

The Early Diagnosis of Measles. •

He would be a great benefactor who would discover a sure sign or symptom of measles at an early stage of the disease. The *New York Medical Record* of April 9th has an original article by Dr. Henry Klopik, attending physician of the Good Samaritan Dispensary, New York, on a New Diagnostic Sign of Measles. This physician thinks that he has discovered an unfailing and pathognomonic indication of the disease which is to be seen two or three days before the appearance of the eruption. The epidemic which rages amongst us just now will enable our readers to verify or otherwise the interesting observation of Dr. Klopik. The sign is to be found in the mouth—*limited to the mucous membrane lining the cheeks and lips*—and is thus described by him: "It consists of small, irregular spots of bright red colour; in the centre of each spot is the interesting sign to which I call attention. In strong daylight we see a most minute bluish-white speck. These minute bluish-white specks in the centre of a reddish spot are absolutely pathognomonic of being measles. I have never met them elsewhere and when once seen they are a certain forerunner of the skin exanthema." The spots are not to be confounded with the red spots seen on the palate and fauces commonly enough in measles. Dr. Klopik says that the observation of these spots by himself and friends has been useful in the way of early separation of cases and limitation of the spread of the disease. But even if his account be confirmed the spots do not occur in most cases till within one, two, or three days of the eruption, when probably the infection has been communicated to others. The eruption is really generally anticipated for several days by well-known symptoms, such as cough, sneezing, red eyes, pyrexia, &c. Still, every minute clinical observation is valuable and tends to the perfection of medical science and service.—*Lancet*, April 30, 1898.

A Medical Speech on Alcohol. .

Mr. Pearce Gould has been making a speech to the National Temperance League on alcohol and the advantages of doing without it both in health and in the treatment of disease. It takes a strong man to say the strong things which Mr. Gould said on the subject, especially if he happens to be a medical man. No doubt, as Mr. Gould says, the use of alcohol in medical practice is nothing now compared to what it was twenty years ago, much more forty years

ago, when Dr. Todd's influence and the reaction from the so-called antiphlogistic treatment were at their height. *Public opinion has been enlightened by the evidence of leaders in medicine such as Dr. Parkes, Sir William Gull, Dr. Gairdner, Dr. Sanderson, and others, and medical men have dared to treat disease without alcohol or with only small quantities of it. There are physicians and surgeons of reputation and success who are so strong in their convictions that alcohol is of little use in the treatment of disease, that it destroys tissues, lessens the resistance to microbes, deranges functions, spoils temper, and shortens life, that they are ready to testify to this effect in public in company with redoubtable champions of the temperance cause like the Archbishop of Canterbury, Sir William White (Chief Constructor of the Navy), and the Bishop of Derry, who have as much prejudice to contend against in their spheres as the medical man has in his. We recognise with pleasure the good done by such testimony as Mr. Gould's. Men whose record and authority in the profession are such as his have the courage of their opinions and their honest testimony will be respected even by those who do not go quite so far in discarding alcohol as an element of diet or as a medicine. On one point the profession is unanimous—that moderation in the use of alcohol must be observed unless certain mischief is to follow; the quantities which our forefathers regarded as moderate would now be thought capable of doing much harm.—*Lancet*, May 14, 1898.

Eruptions Produced by Drugs.

The editor of the *Therapeutic Gazette* writes on this subject as follows: "Although every dermatologist recognizes the frequency with which various forms of skin eruptions appear after the administration of many medicines, it is probably true that the average practitioner does not pay sufficient attention to this possibility, and is therefore misled in some cases into making a diagnosis of one of the exanthemata or of deciding that the eruption is a typical disease of the skin. It is impossible, in the short space which can be devoted to a leading article, to go over in detail all of the drugs capable of producing such untoward effects. On considering the most prominent of them it can be laid down as a safe rule that a diagnosis of a skin disease ought never to be made with positiveness until the possibility of the lesion being produced by a drug has been entirely put aside. Only recently one of the most prominent dermatologists in this country said to the writer that it was surprising how many cases were sent to him by physicians who were not specialists in diseases of the skin, on the supposition that the individual was suffering from some true skin disease, when, in reality, the withdrawal of the medicine which the patient was taking for some other complaint was speedily followed by complete recovery. Of all the drugs which may produce lesions in the skin which closely resemble forms of true skin disease, iodide of potassium ranks first. Urticarial wheals, bullous eruptions, and even eczematous patches may follow its administration while in other cases an intense pruritus develops, which is thought to be due, perhaps, to the gout from which the patient is suffering rather

than to the drug. Singularly enough quinine is another drug which produces eruptions more frequently than is commonly recognized, perhaps the most common form of eruption being urticaria, or in its place an intense erythema. The eruption of quinine and belladonna may so closely resemble that of scarlet fever as to make a diagnosis between the two conditions very difficult, particularly as the belladonna is very apt to cause a slight rise in temperature. Antipyrin may also produce such a rash, though it commonly resembles the eruption of measles, and salicylic acid, may as may also iodide of potassium, cause localized edema, while arsenic causes pigmentation of the skin. The subsequent course of the case, and the fact that these eruptions are generally uncomplicated by other symptoms, will do much toward enabling the physician to guard himself against deception, provided he will but remember the possibility of skin-changes under the use of remedies."—*Medical Times*, May, 1898.

The Diaphragm Phenomenon.

Prof. Moritz Litten, of Berlin, claims to have discovered a new motor phenomenon of the diaphragm, which he describes in the *Medical Record* substantially as follows (*Am. Med. Rev.*): In the act of respiration the motion of the diaphragm, its descent and gradual detachment from the walls of the thorax during inspiration, and its ascent and opposition to the thoracic parietes synchronously with expiration, may be plainly seen by close observation, its outward manifestation being a shadowy, wavy undulation starting on either side at about the sixth intercostal space, and descending through several interspaces sometimes as far as the costal margin, during inspiration and rising through the same space during expiration. This phenomenon is best observed, he says, when the patient is made to lie on his back, with head slightly supported, and the light from a window falling, if possible, in a tangential direction upon the costal region below the seventh rib.

The limits of the excursion of the diaphragm during forced respiration comprise two or three intercostal spaces, while in superficial breathing not more than one or one and a-half spaces are covered. Prof. Litten claims that by noting whether these normal limits are reached, exceeded, or fallen short of, the volume and expansive power of the lungs and the capacity of the thorax can be better ascertained than by measuring the circumference of the chest and the amount of air aspirated. Emphysema, effusions, hydro- and pneumo-thorax, the presence of tumors in the thoracic cavity, attachments of the diaphragm to the lungs liver or spleen, may always be determined, he says, by observation of the excursions of the diaphragm, and the fact whether or not it occupies its normal position in the thorax, as revealed by its visible motions. The difference, if any, between the limits of the movement of the diaphragm on the two sides of the chest wall, renders it possible, he says, to judge of the action of the lungs, after injuries and pleuritic adhesions. He has observed this phenomenon in the patients of his clinic, numbering 5,000 to 6,000 a year, during the past four years, and considers it of value as an aid to diagnosis.

especially in diseases of the lungs or pleura, and in cases of interthoracic tumors; and also a great convenience in the examination of large numbers of individuals for military purposes and for life insurance.—*Medical Times*, May, 1898.

The Treatment of Obesity.

KISCH, of Marienbad (*Wien. med. Presse*, March 13, 1898) deprecates too rigidly uniform measures in the treatment of obesity, which should be carefully adapted to each individual case. He discusses the principal indications under seven heads: (1) All dietetic excess should be avoided; three, or at the outside four, meals a day should be permitted and no food allowed in the intervals. The quantity and variety taken should be based upon the heat-giving properties of the food substances; Kisch gives the value of some of the principal diets in calories, and recommends that no more than the amount necessary to provide the minimum number of calories should be allowed. (2) As regards quality, the first essential is an adequate supply of proteids; a moderate amount of carbohydrate may be allowed but the fat must be reduced to a minimum. Piquant seasonings are to be avoided as they may stimulate to dietetic excess. (3) The consumption of fluid is not to be limited unless symptoms of cardiac failure are present; such liquids as are fancied, with the exception of alcohol, may be taken at any time, but moderation is to be observed at meals. Cold water, especially if charged with carbonic acid, is to be preferred; anæmic subjects should drink less than plethoric. The amount allowed must be restricted when signs of fatty affection of the heart are present. (4) The author is a strong advocate of exercise and active movements in the treatment of plethoric obesity, the state of the heart being always taken into consideration; they are of particular value in increasing the activity of oxidation processes. In anæmic subjects, however, these advantages are counterbalanced by the increased nitrogenous waste which may injuriously affect the heart. In these patients passive movements and massage are accordingly to be recommended. (5) Great importance is attributed to diminution in the hours of sleep, during which the activity of metabolism is reduced; sleep should be entirely forbidden during the day. (6) Tissue change is also to be increased by baths, particularly in springs rich in carbon dioxide, which are most stimulating to the skin. Turkish baths are also of value if the heart is sound. (7) Finally, it is of importance to secure a pure air, rich in ozone, especially in a high and wooded neighbourhood. The lungs are thus stimulated to greater activity, and the effect is aided by the change in the patient's habits and occupations.—*Brit. Med. Jour.*, April 23, 1898.

Two Cases of Perforation of the Intestine by Ascarides.

It is known that round worms can enter the various ducts and organs communicating with the digestive tube in their normal condition, but perforation of the sound intestine by ascarides is a very rare occurrence. The event has been much discussed and even

doubted by many authors. According to Davaine, Niemeyer, and others the perforation could only take place in the event of the mucous membrane having been previously ulcerated. Other authors have either discussed the fact or leave it unmentioned. However Leuckart, Mandière, and Magnac say that ascarides can penetrate the peritoneum by primitive perforation of sound mucous membrane. Charsley also reported some time ago an observation in favour of this assertion. This accident is in my opinion much more frequent than is commonly supposed. I am led to this conclusion by the observation of two such cases in the space of ten years at the Naval Hospitals of Piræus and Salamis. One of these two cases I have already published in the medical journals *Tagenos* of October, 1886, and *La Semaine Médicale* of Nov. 27th, 1886. The second case I now send to THE LANCET, repeating also the first.

The patient in the first case was a man who was admitted to the Naval Hospital of Piræus with attacks of simple intermittent fever. On the night of the fourth day after his admission he presented all the symptoms of intestinal perforation and acute peritonitis and died in the evening of the following day apparently from that cause. At the necropsy the cavity of the peritoneum was found to be full of a sero-purulent foetid liquid. A little above and to the right of the umbilicus the head of a live ascaris was detected. Upon careful examination, between the jejunum and ileum, in a portion of the intestine otherwise perfectly sound, there was found a small, circular perforation of the size of a lentil, through which the ascaris had penetrated into the cavity of the peritoneum. In the intestines there were also numerous ascarides but the mucous membrane was perfectly sound in all its extent.

The patient in the second case was a sailor, aged twenty-two years, who was admitted into the naval hospital of Salamis on May 7th, 1897, with violent pains in the abdomen, meteorism, foul tongue, and a temperature of 39.2°C (102. 6°F.). During the four days that he was under observation he showed symptoms of peritonitis which would not yield to any treatment and he died on May 11th. At the necropsy the peritoneum was found full of a sero-purulent liquid. At the upper part of the ascending colon there was discovered a perforation of the size of a lentil and from it was removed part of an ascaris the remaining portion of which was found inside the intestine.

As these two cases came under my notice in so short a space of time it is probable that many similar ones occur without their true nature being recognised and that the symptoms are wrongly attributed to peritonitis of tuberculous or other nature.—*Lancet*, May 7, 1898.

Blood Parasites.

An interesting paper by Dr. E. W. von Tuzelmann appears in the Medical Reports of the Imperial Maritime Customs for China for the half year ending Sept. 30th, 1896, which have only been recently published. He describes "a non-malarial remittent fever" which has to be discriminated from typhoid fever, with which, he believes,

it has been confounded, for it appears to be a common enough disease. On examining the blood of patients suffering from the fever Dr. Tunzelmann found parasites which have hitherto escaped detection. He first observed them in a very complex case, the non-malarial remittent fever to which the fatal issue was due being mixed with a malignant form of malarial quotidian. Excellent plates accompany the article showing the various forms of the parasite. The first figure shows various stages in the development of the pigmented quotidian plasmodium of the so-called "summer-autumn" fever of the Italian observers. This form rapidly decreased in number, while at the same time infested red corpuscles became more and more abundant. The most striking of these novel appearances was that of a brilliant, double-contoured crescent, varying in size from a barely perceptible dot up to two-thirds of the size of a red corpuscle. When the focus was lowered the crescent became clearly defined, while the outline of the red corpuscle was still indistinct, as if it were external to the latter. This Dr. Tunzelmann believes to be only an optical appearance due to the high refrangibility of the parasite. The second form of organism was found on diluting a drop of fresh blood with an equal volume of normal salt solution. A couple of flagellated bodies in active movement were first seen (malarial parasites), then an object in active internal movement came into view. The greater part of it was occupied by two very clearly defined tentacle-like objects, each bent on itself, its free end swollen into a knob and attached at the other end to an ill-defined, reddish-brown body. These two were in constant motion. After two hours the field of the microscope was occupied by some twenty large objects, some of which are represented in the plates. They were in such continuous and active movement that they were difficult to sketch. These bodies are not easy to describe and vary so in appearance that without referring to the drawings no accurate idea of the parasite can be obtained. Dr. Tunzelmann proposes to call these organisms the "*medusa sanguinis hominis*." He then proceeds to describe a third form of parasite which he has found associated with the medusa. These parasites are simpler in form, being usually reniform. A most notable fact about them is the enormous number which the blood may contain without producing any obvious symptoms—sometimes none at all—a point on which they differ entirely from the *medusa sanguinis hominis*. He has found the medusa in 4 adults and in 4 children; in every case there was pyrexia which only ceased when the medusa had completely disappeared from the blood. The other parasite he found in 21 adults and in 10 children, or, excluding those who also had the medusa, in 17 adults and six children. Of these, 4 adults only and 2 children had fever lasting in each case from two to four days; it was never high, 103°F. being the maximum in the adult cases, nor were the other symptoms severe. 3 of the infected adults had never had malarial fever and 4 of the children. These observations are very valuable. No doubt Dr. Tunzelmann's work will receive due attention from other workers and it promises to be of aid to treatment. Methylene blue produced better results than quinine.—*Lancet*, May 7, 1898.

Professor Schenck's Researches on the Predetermination of Sex.

Prof. Schenck's essay falls into three parts—a summary of the writings of his predecessors, an account of his own researches and deductions and finally a description of the method of treatment he has devised with illustrative cases.

In the development of an embryo the generative organs are at first indifferent—hermaphrodite; in the further process of growth one set develops while the other atrophies. This tendency must be predetermined from the time of fertilisation, for each cell formed from the ovum must have sexual characters, since these are not confined to the generative organs, but appertain to the whole body. The readiness with which an ovum can be fertilised depends upon its position in the ovary, the thickness of its envelope, etc., and these may also have a bearing on the question of sex. In other words, the predetermination may precede fertilisation, and of this confirmation is found in the development of bees and in the production of male and female flowers by plants under different nutritive conditions. In this connection Professor Schenck enunciates and discusses at considerable length the views of previous writers. He points out that the male sex preponderates to a definite though slight degree in the total number of births, and that the sex of a child is more likely to be that of its older parent. He pays particular attention to the theory of crossed sexual heredity, by which each sex tends to propagate the other. Thus if the sexual power of the male be greater a female offspring is more likely to result, and *vice versa*. This theory is threshed out most thoroughly and with abundance of quotations and examples; in the end Professor Schenck practically accepts it, and makes use of it in his further work. With regard to the influence of environment upon sex, he quotes Robin's statement that in warm climates females preponderate, in cold and unfavourable males. Born also showed that 95 per cent. of artificially fertilised frogs' eggs hatched out as females, this being an effect of nutritive conditions acting after fertilisation. Thury's researches are fully analysed, and are stated to have originally called Professor Schenck's attention to the subject. Thury found that cattle fertilised at the beginning of "heat" threw more females, at the end more males. This he explained by the degree of ripeness of the ovum, but Professor Schenck accounts for it on the crossed inheritance theory, the sexual power of the female being at its greatest at the end of the period of rut. This part of the work is summed up in the statement that the sex of offspring largely depends upon the state of nutrition of the parents, particularly that of the mother during pregnancy. During this period the difference between intake and excretion represents the food of the embryo, and hence requires special attention. The temperature is slightly raised owing to oxidation processes, which entail a considerable consumption of red blood corpuscles and consequent diminution of hæmoglobin.

The second section begins with the enunciation of the fact observed in domestic animals and in insects that the better the mother is nourished the more females she produces, the number of males remain-

ing practically constant. This influence upon the foetus *in utero* has received but little attention from the practical point of view, and Professor Schenck consequently set out upon a series of observations based on the theory of crossed sexual inheritance. He first investigated the excreta, and particularly the carbohydrates of the urine. The presence of a certain amount of sugar, which is commonly recognisable by the phenyl-hydrazine test in perfectly normal individuals indicates incompleteness of the oxidation processes, whereby a certain quantity of heat is lost to the body. This physiological output of carbohydrate is in the male sex most marked during the period of growth—that is, between the ages of 14 and 19. In women there is no corresponding increase, but small quantities may appear in the urine before and after menstruation, while Iwanoff and others have shown that glycosuria is common in pregnant and parturient women. Now the amount of sugar normally excreted is equal in men and women, but more significant in the latter owing to the lesser activity of their metabolic processes. For the perfect ripening of the ovum it is necessary that oxidation shall be perfect—that is, that no sugar shall be left unburnt. Where there is a remainder of unburnt sugar the ovum stands a chance of being less ripe, and less well nourished. Hence the properties of its protoplasm are less well developed, and by the theory of crossed inheritance it is more likely to produce a female child. On the other hand, when the urine is free from sugar the ovum can attain perfect development, and give rise to male offspring. It is upon this cardinal principle that Professor Schenck's theory is based. He holds that a prolonged course of appropriate nourishment both before and after fertilisation will tend to the conception of male children only.

The next question is of the means to be adopted to ensure this end. If a male child is desired, and the maternal urine contains no sugar, but abundance of reducing substances (particularly the lævo-rotatory glycuronic acid) he allows impregnation forthwith. If, on the other hand, sugar is present, it must be removed, and the reducing substances increased before fecundation may take place. It is found that the urine of a woman pregnant with a boy contains more reducing substances than that of one with a girl. We need not enter into the details of the diet recommended, beyond saying that it contains a large amount of proteid, which seems to be required by a male embryo.

Finally Professor Schenck gives what may be called his clinical results. He quotes numerous cases to show that the bearing of female children is associated with glycosuria. In such instances he recommends a diet comprising plenty of proteid and fat, and as little carbohydrate as can be tolerated; this must be taken for two or three months before and three months after impregnation. He gives one example in which six boys were born in succession under this treatment, and a girl immediately it was relaxed; and others in which boys were born after repeated births of girls before the treatment. In all, out of 7 recorded cases, 6 were successful. He concludes that the nutrition of the mother plays a most important part in the determination of sex, and that in countries where much flesh is consumed there

is a marked preponderance of male children. This can be imitated artificially, but it is far more important to ensure the completeness of oxidation processes in the body. As long as the combustion of the food is perfect, and the urine is totally free from sugar, the exact amount of meat consumed is of secondary importance. The birth of male children can thus, in certain cases, be predetermined, but the voluntary production of girls is a problem as yet unsolved.—*Brit. Med. Jour.* May 7, 1898.

CLINICAL RECORD.

Indian.

Cases illustrating the efficacy of Homoeopathy in the treatment of the Lower Animals.

By DR. AMRITA LAL SIRCAR, L.M.S., F.C.S.

Case 1. A calf about a year and a half old was attacked with dysentery. The stools were liquid and blood stained. Bamboo leaves, considered as a great remedy, in lower Bengal, in cases of diarrhoea or dysentery of cows and calves, were given to the animal. She ate them with great avidity but they did not produce any effect. The stools continued the same. I gave her twenty drops of *Ipec. 2x* in sugar of milk and it produced a very marked effect. The number of stools was greatly diminished, and a second dose next day completely cured the animal. I stopped oil-cakes of mustard and gave her simply straw and husks of wheat for food.

Case 2. A calf about two years old was suffering from diarrhoea for about a week. The stools were liquid almost like water. She had no desire for any food whatever. I gave her *Ipec. 2x* five or six drops in sugar of milk, once daily, and within two or three days she was all right.

Case 3. A calf about two years old was suffering from inflammation of the submaxillary and sublingual glands. There was profuse salivation, and the calf could not swallow any thing. My father (Dr. M. L. Sircar) prescribed *Merc. s. 4*. Five or six drops of the medicine in sugar of milk were exhibited once a day, and in two days the calf was all right.

Case 4. A cow was suffering from a severe type of diarrhoea for some time. The stools were in large quantity and very offensive. There was loud rumbling in the intestines and considerable tympanites. She was a voracious eater and also used to drink large quantities of water. *China 2x*, ten drops in sugar of milk, was ordered by my father. It was given once a day for two days. On the third day the cow was much better. The quantity and the offensive smell of the stools were much less. Two more doses were given successively in the next two days and the cow was found to be completely recovered.

Foreign.

Hysteria; A Case of Myoclonus Multiple.

By W. E. REILY, M. D., BOWLING GREEN, MO.

Miss B., æt^o 12 years, nervous temperament, inherited from both father and mother. I was called to see patient Feb. 24, '97, when I found her suffering from a violent ear ache which almost disappeared

in the morning, but was very severe from 4 to 8 p. m. Examination disclosed no inflammation of either ear nor catarrh in the region of the eustachian tubes. On further inquiry I found that the patient had suffered from constipation all her life and had had almost complete anorexia since Christmas, subsisting almost entirely upon the juice of oranges and only one or two of them per day.

The nature of the passages from the bowels indicated almost complete inactivity of the liver, and the patient was very much emaciated but still able to sit up, the kidneys were almost as hard to move as the liver, the character of the urine differing very little from the normal and that only on account of concentration of normal elements.

The patient seemed gradually to improve under the administration of lycopodium, strychnia, arsenic, cimicifuga, etc., as indicated, until March 20th, when she was strong enough to go with her parents on a visit to Kentucky, where they remained until April 20th. While in Kentucky she was examined by two homœopathic practitioners and one allopath, with as many opinions as doctors, and treatment accordingly. On April 25th, I was summoned to the case again, and found the slight twitching that had characterized the spells before they had grown into regular, rythmical, clonic muscular spasms and occurred regularly every evening from 4 to 8 o'clock, when she would go to sleep and they would trouble her no more till next evening. The rythmical contractions during this time ran from 60 to 100 per minute, with an occasional harder jerk which would raise her several inches off the bed. She lay all the time upon her left side with the thighs placed upon the abdomen and her hands upon her ears, of which she complained very much during the paroxysms. Under the administration of chininum arsenicosum the spasms gradually changed character, until at last they became violent only at intervals of 15, 20 or 30 minutes in the afternoon, with milder rythmical contractions and relaxations between. These more violent spells lasted from 10 to 15 minutes, but were usually cut short by a hot bath.

Nux Vomica 2x was prescribed. The appetite began to return about June 1st, and the bowels became regular, but there was still some trouble with the kidneys. From this time on, the improvement was steady and she gained in flesh and strength. Her appetite is now good and her digestion unusually good, though there remains a weakness of the lower spine which has prevented her walking much but which is rapidly disappearing under strychnia, arsenic and galvanism.

I neglected to say that we had globus hystericus very marked at times during the severest attacks; but only a few times was there any loss of consciousness. The attacks grew lighter and lighter and always ended in sleep which usually lasted till morning. There is still some slight twitching at the time for the spasms in the afternoon, but the case is well on toward a complete recovery from this most troublesome malady.—*American Medical Monthly*, April, 1898.

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OFFICIAL ACCOUNT OF THE EXHUMATION OF
THE BODY OF HAHNEMANN AT THE MONT-
MARTE CEMETERY AND OF ITS TRANSFER
TO PERE-LACHAISE.

[THE Plague Statistics have given us some respite, and we take advantage of it to lay before our readers an account of a most solemn ceremony that was performed on the 24th May in Paris. The ceremony was no other than the exhumation of Hahnemann's coffin from the obscure cemetery of Montmartre and its transfer to the most celebrated cemetery of Père-Lachaise. For fifty-five years the mortal remains of Hahnemann had lain in the former without a monument and without even a name on the stone which covered the coffin. All this was due to the devotion of his beloved Melanie. The world is full of mystery, and there are many things even in ordinary life which become inexplicable from their strange inconsistencies. The whole course of life of the second Madame Hahnemann from the day of her marriage with the founder of Homœopathy to the day of his death was apparently full of devoted attachment, of the deepest veneration, and of the purest and most disinterested love. But the whole course of her life from the day of Hahnemann's death to her own death

was equally a most strange anomaly. These two courses belie one another. They seem to be inconsistent with each other. And yet were they really so? We have discussed this matter in our March number, and we refrain from taking it up again for the sake of both the parties concerned; especially now that their ashes and their bones are again united at their new resting place.

The true monument of Hahnemann is that which he has himself erected. It is the work he has accomplished "for all time and for all mankind;" the discovery of the law of healing by drugs which has established medicine on the basis of nature and not of vain imaginings; a work which will be more enduring than any monument we can erect of brass or marble. But frail humanity requires something which can appeal to the senses, something which can be seen and touched, something which will bring back and concentrate the past in one moment without any effort of the mind. Hence the desire and hence the necessity for material memorials of the great and the good. In the case of Hahnemann the desire is but a reflex of gratitude, the gratitude of those who have profited by his teaching—physicians and patients alike; and the necessity has arisen from the strange fact of that teaching being still, at the end of a century, ignored and unacknowledged, even when acted upon, by the majority of the profession. We hope, therefore, the gratitude will find adequate expression so that the necessity may be met in a way worthy of all parties concerned, worthy of the greatest man of medicine ever born, and worthy of his followers who ought to show that their devotion to truth is genuine.

Though from the failure of the embalming, or rather from the carelessness with which the coffin was closed, the distinguished members of our school, who gathered round the grave at Montmartre with such eager expectation to have a look upon the features of the Master, "calm in the profound rest of death," were disappointed in finding the body completely decomposed, and though thus the proof of the identity of the body from the recognizability of the features was lost, the discovery of the wedding ring, of the autograph letter of the widow, the short stature of the embalmed body, and other circumstantial proofs, have left no doubt about that identity. And, therefore, as Dr. Cartier said,

“the monument we are going to erect at Père-Lachaise, will really cover the body of the Founder of Homœopathy.”

The following is a translation of the Official Report published by the Société homœopathique française and by the Representatives of the International Tomb Committee.—*Ed., Cal. J. Med.*]

ON TUESDAY, the 24th May 1898, took place, in the presence of civil authority and of thirty-five persons, the solemn exhumation of the body of Samuel Hahnemann, the founder of Homœopathy.

The ceremony commenced at half past 8 o'clock in the morning with the arrival of the Commissary of Police, representing the civil authorities, who permitted the exhumation of the body of Hahnemann and that of his wife, in accordance with the arrangement made with Madame de Baroness Boenninghausen, the adopted daughter and heir of Hahnemann's widow.

There were present: Dr. Süss Hahnemann, grandson of Samuel Hahnemann, who came from England, M. Cloquemin, Vice-President of the Transatlantic Company, representing the Baroness Boenninghausen.

The International Tomb Committee was represented by Dr. Richard Hughes, of Brighton, and by Dr. François Cartier, Secretary of the Paris Committee.

There were present also the following doctors and pharmacologists: Léon Simon, President of the French Homœopathic Society, Parenteau, Conan, Jousset the father, Jousset the son, Faure (J.-B.), Guinard, Faure (Elie), Tissot, Dezon, Nuguay, Boyer, Love, Chancerel the father, Chancerel the son, Georges Tessier, Trichon, Peuvrier, Heermann, Vautier, Koenick, Girardeau, Ecalle, and Bernard Arnulphy of Chicago.

Dr. Gannal, who had, fifty-five years ago, acted as his father's assistant at the embalming of the body of Hahnemann, assisted at the present ceremony.

And finally, five persons, not medical men, completed the total number of thirty-five persons who assembled for the occasion.

The following despatch (telegraphic) from Dr. De Brasol, President of the Committee, addressed to the Secretary of the Committee, was read at the beginning of the ceremony:

"Am unable to come, am with you in spirit at Paris, participating in your solemnity with all my soul. It is consoling that at last due honor is being done to our Master. Wish success to the work so energetically undertaken by you, and that in two years the tomb may be adorned by a beautiful monument."

Dr. Cartier, who was the first to speak, said :

"In face of this open grave, before this coffin containing the body of our illustrious master, my duty is not to recount the work of the man of genius who has stirred the world by his ideas and his doctrine. In my quality as Secretary of the International Committee of his funeral monument and as French delegate, the only one capable of acting on the spot, I owe to all those who are present here and to all those who, throughout the world, are awaiting with anxiety the result of to-day's ceremony, to offer palpable and evident proofs that we are truly in the presence of the precious remains of Samuel Hahnemann, and that the monument we are going to erect at Père-Lachaise, will really cover the body of the founder of homœopathy. The necessity of this has risen from recent polemics which have appeared in certain homœopathic Journals and which it is absolutely necessary to correct by offering all the proofs of authenticity.

"The proofs may be summed up in two groups : 1. The informations furnished by the registers of the civil authority and by the statements of the family and of homœopaths, coinciding with the marks on the vault and on the coffin. 2. And finally the opening of Hahnemann's coffin, the features of which ought still to be recognizable.

"Hahnemann was interred in the vault of Lethière ; Hahnemann's is the first body which is found on the opening of the vault in the first coffin. Such is the first part of the proofs to give.

"On the one hand the registers of the cemetery and of the civil authority ; on the other, the informations furnished by the grandson of Samuel Hahnemann, Dr. Süß-Hahnemann, who is here present, by Madame Boenninghausen, the adopted daughter of the late Madame Hahnemann, née Melanie d'Hervilly, by all those who were Hahnemann's contemporaries or have written on his life, testify that Christian Samuel Hahnemann, who died in Paris in 1843, was interred in Lethière's Sepulchre, indicated

by a perpetual grant, bearing the No. 324 of 1832, and 414 of 1834.

"The grant on the left, bearing the No. 231 of 1847, is the Hahnemann Sepulchre. This sepulchre contains only the body of Hahnemann's widow, née Melanie d'Hervilly, who died in 1878. It is erroneously that certain homœopaths have maintained that Hahnemann was reposing in this sepulchre. Gentlemen, it is now open before you, it contains only one coffin the description of which answers to the registered account of Madame Hahnemann, née d'Hervilly.

• "The sepulchre Lethière, where reposes the body of Hahnemann, has been reproduced in an engraving in the *Journal* of Dr. Schwabe, *Homöopathische Kalender*, in 1892, and more recently in the *Hahnemanian Monthly* of October 1896. Since the drawing of the sepulchre was made the zinc roof has been taken away, but, Gentlemen, you can see the identity of the iron railing and of the form of the tombstone by the drawing I place before your eyes. Finally, you see as evident proof, in the corner of the tombstone, this inscription : "C.P. 324" (Concession perpétuelle 324).

"We knew also, through the authorities of the cemetery, and through the account of the family and of homœopathic physicians, that Hahnemann's coffin was deposited the last. The body of Gohier was interred the first, the cemetery authorities possess no longer the date of his death ; the body of Lethière, who died in 1832, is in the middle ; finally, the last one, that is to say, the first beneath the slab, is the body of Hahnemann, buried in 1843.

"The number of Hahnemann's coffin inscribed in the register of Montmartre Cemetery is No. 1252, 1st arrondissement, 1843.

"Now, Gentlemen, you are here to establish to-day the authenticity of these indications.

"We read distinctly on the first lead coffin, separated from the others by a layer of cement, immediately below the slab of the Lethière sepulchre, the following inscription, which has not in the least been altered by time : No. 1252, 1st arrondissement, 1843.

"Higher up, on the coffin, a lead stamp, thus fashioned :

BREVET D'INVENTION
Embaumement Général.

"Now we know that Hahnemann's body was embalmed by one of the first specialists of the time. The house of Gannal still exists, 6, Rue de Seine. I had the opportunity of seeing Dr. Gannal, the son and successor, who was his father's assistant at the embalming of Hahnemann, and who still remembers the operation. The embalming was done, according to him, with sulphate of alumina (Gannal's process), although Dr. Süss Hahnemann, equally an eye-witness, asserts that arsenic was the agent employed. On Gannal's books are still found the words: "3rd. July 1843, embalming of Hahnemann, 2000 francs." To-day Dr. Gannal is with us and desires to be present at the exhumation.

"I will now sum up in order the proofs of identity of the body of Hahnemann:

"1. Hahnemann was interred in the sepulchre Lethière and not in the sepulchre Hahnemann, in accordance with the registers of the cemetery and the civil authorities, with the statement of an eye-witness, Dr. Süss Hahnemann, grandson of Hahnemann, with the attestation of Madame de Boeninghausen, adopted daughter of Madame Hahnemann the widow, with the writings of all those who have related the life of Hahnemann.

"2. Hahnemann's coffin in the sepulchre Lethière is certainly the one bearing the No. 1252, 1st arrondissement, 1843. Because, firstly, the No. 1252 is very plainly visible on the coffin, and corresponds with what is written on the cemetery register; secondly, the Rue de Milan, where Hahnemann died, now in the 9th arrondissement, formed part of the 1st arrondissement of Paris in 1843; thirdly, Hahnemann alone died in 1843, and was buried in the sepulchre Lethière where repose two other bodies, one buried in 1832, and the first before 1832; fourthly, the stamp bearing the mark of Gannal's embalming is still another proof.

"Finally, Gentlemen, in order to dissipate all further doubts I have obtained from the prefecture of the police authority to open the lead coffin. We are going to be present at a spectacle which must be very touching, and unique in our life; we shall behold the remains of him who has been our every day guide, our common master. The features of the illustrious Hahnemann, who has slept these fifty-five years, will appear in the light (to be seen) for the last time!"

After the address of Dr. Cartier, M. Cloquemin spoke. In the

name of Madame de Boenninghausen, whom he represented at the ceremony, he thanked the Homœopathic Society, and in particular Dr. Cartier, for the work of the homœopathic physicians in which Madame la Baronne de Boenninghausen takes the greatest interest. She rejoices to know that the remains of her mother, for whom she has the most affectionate reverence, will be united with those of Doctor Hahnemann in the same grave at Père-Lachaise.

Dr. Simon, President of the French Homœopathic Society, delivered the following discourse :

“Gentlemen,—Thanks to the good will of Madame la Baronne de Boenninghausen, to the good offices of M. Cloquement, and to the zeal of Dr. Cartier, we are able to honor the memory of Samuel Hahnemann according to our dearest wishes. The French Homœopathic Society offers them its sincerest gratitude. It is ready to receive the two coffins from the Committee represented by Dr. Hughes and Dr. Cartier. You may rest assured that we will carefully watch over this precious charge.

“Two generations have already passed, Gentlemen, since our Master quitted this world, and it is to the grandchildren of his contemporaries that the unexpected task has fallen of providing him a tomb less modest than that in which he has rested till this day. Strange vicissitude of things here below, which proves once more that “man proposes, and God disposes!” which proves also that the glory of Hahnemann is proof against time. First, he lives in his grandson who follows faithfully in his foot-steps; and next, his name is assured against oblivion, because instead of working for the present and for himself he worked for all time and for all mankind. Hence, it is of little importance, that the present, blind and ungrateful, has disowned and disdained him; posterity, of which we are the van guard, is ready to render him justice.

“Hail Hahnemann! We bow before thy venerated remains, to which, more fortunate than our predecessors, we can render the honors due to them. Full of faith in the future, we give our brethren rendezvous at thy mausoleum at the congress of 1900. Thy tomb will appear to them more glorious, illumined by the dawn of the coming century, which will certainly see the triumph of thy teaching.”

After the thrilling speech of Dr. Simon, who profoundly moved

the audience, Dr. Richard Hughes, of Brighton, came forward and delivered in French the following speech :

"Ladies and Gentlemen,—In obedience to the wish of my colleagues I say a few words in the name of the English homœopaths, and you will pardon me if I do not express myself well in your language.

"England cannot boast of being the place of birth or of death of Samuel Hahnemann ; she is not, however, wanting in her devotedness to his memory, any more than Germany or France. Her institutions show it. In the year he died, she had already started the *British Journal of Homœopathy*, and in the following year the British Homœopathic Society was founded. Five years later the London Homœopathic Hospital was opened, lately rebuilt at a cost of £48,000, and containing now a hundred beds. The *Journal* bore up the flag of homœopathy for 42 years : the Society and the Hospital continue their work to this day. As a representative of these, and also of our present journals, I come amongst you to-day, bringing their fraternal salutations to *l'Art Medical*, to the French Homœopathic Society, and to the Hahnemann and Saint Jacques Hospitals.

"You have heard from Dr. Cartier what we have to do and what has been already done. Our warmest thanks are due to him, as well as to the Society for which he acts, for having so well cleared away all obstacles from our path. To-day the disciples can reclaim his precious body, look upon his features—so calm in the profound rest of death, and take him out from his obscure surroundings in order to deposit him among the

Kings of thought
Who wage contention with their time's decay
And of the past are all that cannot pass away.

"This is our task to-day. To-morrow we shall make ready to erect over these remains a monument worthy of his merits and of our veneration for him, at the sight of which the world can ask : What was this man, to whom after more than 50 years, his disciples have shown so much honor ? It will ask ; and those, who already know what he was, will make pilgrimage from all the countries of Europe, from America north and south, from India, from Australia, and will rejoice to see the master thus honored. They will return home armed with a new courage to follow the

path which he opened for the advancement of their art and the benefit of their patients.

“French colleagues! England joins with you in your desires and in your work.”

Speech of Dr. Süss Hahnemann in French:

“As a representative of Germany and of Hahnemann’s family, I am very happy that I have been permitted to take part in this interesting ceremony. It is now fifty-five years that I was present at the interment of my grandfather, who is left here without a name and without a monument for more than half a century. Thanks to the International Committee, and especially to Dr. Cartier, Samuel Hahnemann has found a resting place worthy of his name.”

Opening of the Coffin.

The discourses and allocutions having terminated, the workmen proceeded to the exhumation of Hahnemann’s coffin:

In the presence of the Commissary of Police, the workmen took possession of the coffin which they raised to the ground by means of ropes; they placed it on the planks which covered the gap produced by the previous exhumation of Madame Hahnemann.

Dr. Gannal, who directed the operations, discovered that the leaden coffin of Hahnemann had been screwed down and not soldered, and expressed before the physicians his fears that the body might not be well preserved. The workmen drew out the screws which were not too rusty, and forced out those which were worn out by time. The lead cover half-opened at the lower end, and those present perceived Hahnemann’s feet, wrapped in cloths, resting against the walls of the coffin; they appeared well preserved. But as they continued to pull out the screws, and as the lid opened wider, it was perceived that there was water in the coffin and the fears of the body not being well preserved increased.

At last the lid opened out, and the body of Hahnemann, covered and enveloped in bandages of silk, appeared. The configuration of the body, outlined under the embalming bandelets, was well preserved; the body was slightly shrunken; but what especially struck those present was the short stature of Hahnemann. On questioning those who knew him, we were told that in fact the founder of Homœopathy was very short.

The body was bathed in water. This liquid was not a product of the embalming; the water came from outside. The ground of the cemetery was continually infiltrated, according to competent authorities, by the water flowing along the clay bottom of the soil. But if the coffin, in 1843, had been soldered, and not screwed, there would have been no percolation. The presence of water in the coffin had necessarily brought about the decomposition of the body!

The embalmer had taken care, besides applying the silk bandages, to cover the head and the hands with pieces of wool soaked in essence; at the end of the half century these pieces of wool appeared like big sponges covering the head of Hahnemann, and his hands which were crossed over his body.

Dr. Gannal removed from the face and hands the remains of wool and silk bandages which were better preserved than the rest. He searched for the head, but he discovered only a mass of decomposed tissues and bones. He searched for the enamel eyes which had to be introduced into the orbits. Hahnemann's body was completely decomposed. There was found only a long tress of woman's hair round his neck; this was probably the hair of Madame Hahnemann.

In the impossibility of recognizing the features of Hahnemann, it was fortunate that Dr. Gannal could take out from the coffin a number of pieces which assured the identity of the body, and which we proceed to describe in detail.

1. The Wedding Ring.

In examining the hands Dr. Gannal drew out the separated bones and finished by discovering on one of the metacarpals the ring which betokened the marriage of Hahnemann with Melanie d'Hervilly. This gold wedding ring, which was shown to the spectators, was formed of two small rings, and on one of them were engraved these words:

*Samuel Hahnemann. Melanie d'Hervilly,
Verbunden Cæthen, 18 Janvier 1835.*

The ring was replaced on one of the bones of Hahnemann's hand by order of the Commissary of Police.

2. The Gold Medal from the French Homœopaths.

At Hahnemann's feet was found a bottle corked with emery and sealed up. The Commissary of Police gave permission to

break it open. It contained papers relative to Gannal's process of embalming, the gold medal from the French homœopaths to their master, and lastly an autograph letter of the late Madame Hahnemann, which formed the third convincing proof (of the identity of the body), found in the coffin.

The gold medal, admirably preserved, represents on one face the profile of Hahnemann, by David of Angers, the sculptor of the famous bust of Hahnemann which has served as a model for the reproduction of his portraits. The other face has the following inscription :

*A leur Maître, les Homœopathistes français.
Similia similibus curantur.*

This medal was struck in bronze. Dr. Boyer had brought with him a specimen exactly similar to the medal in the coffin. After having been examined by those present the gold medal was replaced in the coffin.

3. The autograph letter of the late Madame Hahnemann.

Among the papers relating to the embalming, preserved in the bottle, was an autograph letter of Madame Hahnemann, which the Commissary of Police permitted to be reproduced by photography. The authenticity of Madame Hahnemann's handwriting was attested by witnesses who had known the widow of the father of homœopathy. M. Cloquemin, representing the Boeninghausen family, and Dr. Heerhant (of Paris), recognized the handwriting without the least hesitation.

Here is the autograph (with the translation into English):

Chertien. Frederic. Samuel
Hahnemann

né à Mussen, en Saxe

le 10 avril 1755, mort à

Paris le 2 Juillet 1843—

Sa femme

Marie Melanie D'Hervilly

le rejoindra dans ce tombeau

ainsi qu'il l'a desire—

et l'on y inscrira ces mots

tracés par lui

Hic nostro, cineris cinis, ossibus ossa, sepulcro

Miscuntur vivos ut sociavit amor.

Chretien Frederic Samuel
Hahnemann

Born at Mussen, in Saxony
on the 10th April 1755, died at
Paris on the 2nd July 1843—

His wife

Marie Mélanie D'Hervilly
will join him in this grave
as he desired it—

and on this (tomb) will be inscribed these words
traced by him—

In this our sepulchre, ash with ash, bones with bones,
will be mingled as love united us in life.

End of the Ceremony at Montmarte.

At ten o'clock of the morning the ceremony at the Montmarte Cemetery terminated ; it had lasted an hour and half. The workmen replaced the lead cover. The lead coffin was then enclosed in a new wooden coffin, on which they nailed the old plate (No. 1252, 1st Arrondissement, 1843), and a very large new copper plate on which was engraved the name "SAMUEL HAHNEMANN."

During this time those who assisted at the ceremony withdrew, convinced of the identity of the body, but regretting the unsuccessfulness of the embalming.

The coffins of Hahnemann and of his widow were placed in a hearse, and ten persons accompanied it to the cemetery of Père-Lachaise, amongst whom were found Doctors Süss-Hahnemann, Richard Hughes, Simon, Heerpmann and Cartier, and lastly M. Cloquemin.

At Pere-Lachaise.

In contrast with the retired spot in Montmarte, which appeared so small and poor, the new resting place of Hahnemann looks a veritable rehabilitation. The *Chemin du Dragon*, at Père-Lachaise, where the founder of homœopathy is now seen, is a most picturesque road adorned with venerable trees ; it has about it something grand and mysterious ; perhaps it was baptised with this name because of its likeness to places supposed to be frequented by this mysterious and incomprehensible animal. At each turn of this renowned corner of Père-Lachaise the mind lives again with all whom France has sheltered, men great and celebrated in the sciences, the fine arts, and war. Here music is represented by

Cal. J. Med.

July 1898.

*Facsimile of Autograph of
Madame Hahnemann.*

Christen, Frederic, Samuel.

Hahnemann

né à Müssen, en Saxe.

le 10 avril 1755. mort à

Paris le 2 Juillet 1843 =

La femme

Marie Mitanie D. Hervilly

le rejoindra dans ce tombeau

ainsi qu'il l'a désiré -

et l'en y inscrivra ces mots

trouvés par lui.

Hic nostro, uneri unus ossibus ossa, sepe lora

Misuntus viros ut sociavit amor.

Rosini, Auber, Donizetti; there the poets and celebrated writers. Racine lies almost by the side of Hahnemann; a little further on Molière and Lafontaine. The sciences are represented by Gay-Lussac and Arago. The celebrated phrenologist and physician, Gall, is a few steps lower down than Hahnemann; and lastly on the same side are the tombs of the marshalls of the First Empire—Ney, Davout, &c. The *Chemin du Dragon* is the habitual route of excursionists who visit by thousands this renowned cemetery, the first in Paris.

"It is a god-send," exclaimed one of the company on arriving at this spot. In fact, Hahnemann's tomb is just on the border of the *Chemin du Dragon* where the two roads intersect, so that the site of the future monument will be reached by three different routes.

While the spectators were admiring this part of Père-Lachaise, still adorned with the verdure of spring, the grave diggers lowered the coffin into the grave, and placed the body parallel to the road, in such a way that the head of the great man will be found at the right hand side of the monument, the feet at the left; finally, at the feet of Hahnemann, they deposited the little coffin enclosing the remains of Madame Hahnemann. Immediately after putting down the coffins, the workmen cemented the vaults and covered them with concrete in the presence of the spectators, who left the place only after the grave had been perfectly closed and filled up.

A provisional railing and a crown will be the simple ornaments over the precious remains of Hahnemann until the day when the homœopaths of the whole world will, deeply moved, complete the work of reparation in honor of their venerated Master, a work which will be the more striking and brilliant because so long delayed.

[By favor of Babu Shoshi Bhusan Chatterjee, the most successful cartographer in India, we are able to present our readers with an exact reproduction of the facsimile of Madame Hahnemann's autograph, as given in the official account published in the *Revue Homœopathique Française* and in *L'Art Medical*.—EDITOR, *Calcutta Journal of Medicine*.]

REVIEW.

Saw Palmetto. (Sabal Serrulata. Serenoa Serrulata.) Its History, Chemistry, Pharmacology, Provings, Clinical Experience, and Therapeutic Applications. By Edwin M. Hale, M.D., Author of "New Remedies," "Practice of Medicine," etc., etc. Boericke & Tafel, Philadelphia, 1898.

WE do not think we shall ever have a completed *materia medica*. There must be additions to our already numerous stock of drugs, so long as disease remains uncured by their means. We do not believe with men like Dr. Heysinger that we can treat all diseases with the existing *materia medica*. We admit that our failures are not always due to want of appropriate remedial agents. Some of them, we should say a large number of them, are due to want of a proper use of the drugs we possess, in other words to our ignorance of their pathogenetic effects. But it is equally true, that drugs have yet to be discovered for a number of diseased conditions which are but inadequately met by drugs already in our possession. Provings and clinical tests will both add and subtract, add many new drugs and reject and precisionise many old ones which, from want of thorough proving and clinical verification, are still encumbering the *Materia Medica*.

Sabal Serrulata, from the pathogenetic symptoms already elicited and the clinical results already obtained from it, promises to be a valuable acquisition to our *materia medica*. We therefore hail with pleasure the appearance of this little book from the pen of the father of "New Remedies" as a most important contribution to our literature. The author has given an account of the plant and of the part of it (the berry or rather the drupe) used as medicine with his usual thoroughness, so as to justify the title he has given to the book. The whole available knowledge regarding the drug has been so well presented that there is very little left to be desired.

Dr. Hale has given the chemical analyses of the drug by Prof. Coblentz, by the Chemist of Messrs. Parke, Davis and Co., and by Mr. John Uri Lloyd, Cincinnati. According to the analysis of the former the *pulp* contains "a small per centage of a volatile oil, having the peculiar and persistent odor characteristic of the

berries, a large proportion of a fixed oil, fat, an alkaloid, and indifférent resin, dextrose and a remarkably large portion of glucose. The seed yielded an additional quantity of fixed oil (12.12 per cent.), of a pale yellow color, sp. gr. 0.9103, bland, and insoluble in alcohol. It is soluble in ether and chloroform and saponifiable in alcohol, and an alkaloid. The seed also contains some resin and sugar."

According to Mr. Lloyd, the principal constituent is a volatile oil, of a deep green color (not due to chlorophyll nor to copper which might come from a worm used in condensing it), which dominates the drug. He very wisely observes: "While I assert that the volatile oil is the conspicuous constituent of the fruit of the Saw Palmetto, I do not mean that it can replace the natural drug. The fact is, in many cases our chemistry is not able to determine the therapeutical value of passive bodies. The apparently inconspicuous substances seem in natural combinations to possess *decided* powers as blenders or modifiers. I call this to your attention in order that you may not fall into the error of so many men who infer that the *conspicuous* product of a drug naturally possesses the therapeutical value of the drug."

Dr. Hale has mentioned seven, as he has called, official (the more correct, at least the more frequently used, term is officinal) preparations,—the tincture, the fluid extract, the saccharated oil, the malto-sabal, the aqua oleum sabal, and lastly the suppositories. The tincture, as recommended by Mr. Lloyd, is prepared with 90 per cent. of pure alcohol, clarified by settlement, then decanted, not filtered, as the filtering medium absorbs the oil. We do not think we need use for homœopathic purposes any other preparation than the tincture and its dilutions.

He mentions some unofficial preparations, "because they are largely used, even in the homœopathic school." He is against their use, though he admits that they are capable of beneficial effects. These are *Sanmetto*, which "fanciful name is given to a compound of Sabal, Oil of Sandal Wood and *Triticum repens*;" *Saw Palmetto Compound*, "another more objectionable mixture, composed of Sabal, Kola, Coca, and Parsley seed and recommended for nearly all diseases of the genital and urinary organs;" *Saw Palmetto and Santal Comp.*, containing Sabal, Corn-silk, and Sandal Wood Oil. "Besides the above," says he, "other compound

preparations in the form of tablets, syrups, capsules, pills and elixirs, are flooding the market by ambitious drug manufacturers. The temptation to use these compounds by the busy physician is very great, especially when the case under treatment is complicated and obstinate. It is like the temptation to the sportsman to use a shotgun instead of a rifle. But such a practice does not comply with the demands of exact science and should be resisted." He nevertheless speaks of the *Syrup of Oil of Saw Palmetto with Hypophosphites*, as a most valuable preparation which he has "prescribed with decided benefit in pulmonary, bronchial and laryngeal catarrhs; also as a general restorative agent in anæmia and malnutrition."

Dr. Hale gives the provings available to date, namely, two by Dr. Robert Boocock, one by a lady contributed by Dr. Mullins, and one by another lady, Dr. Freda M. Langton. These two last will be found in previous (Jan. & Feb., and March & April 1897) numbers of this Journal. This is followed by a résumé of the pathogenetic symptoms in schema form with clinical observations under each head. He then gives the following list of the analogues and opposites of the drug, based on our present knowledge of its physiological action on the generative organs:

Primarily aphrodisiac.

Sabal Serrulata.
Phosphorus.
Damiana.
Nux vomica.
Ol. Origanum.
Coca.
Aurum.
Cann. Ind.
Platina.
Lilium.
Sandal Wood.

Primarily unaphrodisiac.

Conium mac.
Salix nig.
Agnus castus.
Nuphar lutea.
Arsenic.
Pieric acid.
Caladium.
Camphor.
Iodine.
Salicin.
Lupulin.

It must not be forgotten that *Silicea*, as discovered by the lady-prover, Dr. Freda Langton, is an efficient antidote of the drug. There may be others which will have to be found out.

Dr. Hale concludes the book by some observations on the action of the drug on nutrition, and directions for the external use of the oil. The drug is well worth an attentive study, which Dr. Hale's treatise will facilitate.

EDITOR'S NOTES.

Lobster-poisoning simulating Poisoning with Atropine.

Dr. Fischer reports such a case (*Nouv. Remèdes*, April 8, 1898). A man and two women, having partaken of lobsters, were seized with severe vomiting of a bilious nature, and soon presented the following symptoms, so characteristic of atropine-poisoning: Dryness of the throat, with difficulty of deglutition; dilatation of the pupils; imperfect accommodation; dry, hot skin; dulness of intellect, and general feebleness. There was also very obstinate constipation, the author having succeeded in inducing an evacuation only after large doses of castor-oil, senna, magnesium sulphate, and several soap-enemata. The general toxic symptoms improved under the hypodermic administration of pilocarpine (1-7 grn.), while for the eye-symptoms it was found necessary to employ eserine (1 to 2 drops of a 5-per-cent. solution twice daily.—*American Medico-Surgical Bulletin*, May 25, 1898.

Permanganate of Potassium in Opium-poisoning.

Dr. L. N. Grosvenor, *Med. Era* (Dec., 1897) gives the following directions:

1. When you find that opium, or any of its alkaloids has been taken, give a hypodermic injection of solution of 10 grn. of permanganate of potassium to the ounce of water, at short intervals.

2. Wash out the stomach twice with clear water, keeping washing for chemical examination.

3. Wash out the stomach with a solution of permanganate, 2 grn. to the pint of water, until washings come back pink, retaining the solution one minute each time.

4. Give a glassful of solution of the potassium permanganate, 10 grn. to the pint of water, every half-hour till recovery.

If patient is unable to swallow, use the stomach-tube with a large lower opening, and through the nose if necessary. Do not forget your rectal speculum (for dilatation of rectum); it may be of great benefit at critical moments.

In case of failure of heart and lungs, use artificial respiration and your hypodermic of strychnia.

The permanganate of potassium is not a poison, but is a local irritant; therefore use a large quantity of a weak solution, rather than a small amount of a strong solution.—*American Medico-Surgical Bulletin*, May 10, 1898.

Digitalis and the Heart-muscle.

The effect of the prolonged use of digitalis on the heart-muscle is discussed by Dr. H. A. Hare in the *Therap. Gaz.* for December, 1897, p. 800, having been determined by means of microscopical examinations and measurements by Dr. W. M. L. Coplin, professor of Pathology in the Jefferson Medical College. A litter of ten pigs, 2 months old, was procured and carefully assorted as to sex, weight, etc., five

of them being treated with normal liquid digitalis, the others cared for in all respects similarly except that the digitalis was omitted. The average dose of 2 m. was given twice daily for a month, and was then regularly increased monthly until, after three months, 10 m. was given twice daily. This, according to weight-ratio, was equal to about 80 m. a day for a man, but no ill effects resulted from the large dose. After four and one-half months the digitalis pigs were found to weigh about four pounds each more than the others having weighed the same at the commencement of the experiment. Their hearts weighed little more than 1-2 ounce each above those of the others. The ventricular walls of these hearts were reported by Dr. Coplin as being much thicker, uniformly firmer, and cutting with more resistance. The measurement of many muscular fibers showed an average diameter of .02 mm. in favor of the digitalis hearts, this being an increase of from 1-10 to 1-5 in their thickness—*American Medico-Surgical Bulletin*, May 10, 1898.

The Biology of the Tubercle Bacillus.

MARPMANN (*Centralbl. f. Bakt.*, xii, 20, 21) claims to have opened up a new point of view in bacteriological pathology by his researches on the growth of the tubercle bacillus. This has long been known to secrete a cellulose capsule, which is a characteristic of aerobic microbes, whereas those which are anaerobic are distinguished by the formation of volatile gases, such as marsh gas, sulphuretted hydrogen, phosphoretted hydrogen, and ammonia. The author finds that tubercle bacilli grow readily on a new medium, consisting of crude lecithin rendered germ free by repeated warming to 50° C. At first only traces of volatile gases are given off; but after five or six days, if the access of air is prevented, the presence of phosphoretted hydrogen can be demonstrated by the contained gases blackening paper impregnated with silver but not lead. Marpmann concludes that the tubercle bacillus is capably anaerobic, and can give rise to reduction as well as oxidation products. The formation of phosphoretted hydrogen is much more marked in the case of the cholera bacillus, and it is suggested that the symptoms of cholera intoxication may be due to that gas. Similarly it is possible that this and other gases may be the causes of the symptoms of other bacterial infections, if this is the case, treatment should aim at neutralising them as well as at increasing the resistance of the tissues to them. It is this new suggestion which the author considers may lead to most important results.—*Brit. Med. Jour.*, June 11, 1898.

Extrauterine Pregnancy dating Twenty-four years. Expelled by the Bowels.

DEMONNIER (*Bull. Soc. Obst. et Gyn. de Paris*, No. 3, 1898) relates the following case: In July, 1896, a patient brought him two bones, one of which appeared to be foetal frontal bone; they had been expelled by the bowel in the preceding March. Her general health had been good, and she had had neither rigors, fever, abdominal pain, tenesmus, nor bloody or purulent stools. Examination

showed a hard tumour the size of a turkey's egg in the region of the left adnexa. The uterus was fixed. Inquiry showed that in 1872 she had an apparently normal pregnancy; at term labour pains came on, which were ineffective. She consulted two doctors in Paris, who diagnosed extrauterine pregnancy, and advised that no operation should be performed. According to the patient's account they further affirmed that she would not become pregnant again. Nevertheless, two normal confinements at term, followed by normal puerperia, occurred subsequently, one in 1878 and one in 1881. When seen in July, 1896, the general condition was too bad to justify operation. Antiseptic douches led to no diminution in the size of the tumour, and it was concluded that the lithopædion had not been completely expelled. The author points out the rarity of the occurrence of inflammatory troubles supervening in a lithopædion twenty-four years from the onset. The opening of the fistulous track into the bowel gives much better results than one in connection with bladder or vagina. He regarded the case as an argument for early surgical intervention in these cases. The occurrence of two subsequent confinements at term is noteworthy.—*British Medical Journal*, June 11, 1898.

Non-ligation of the Umbilical Cord.

Keller, in the *Brit. Med. Jour.*, in advocating non-ligation of the cord, states that he has practiced it in more than 2,000 cases, and after careful examination and observation of these cases, summarizes his views as follows:

1. Ligation is unnecessary because (a) it is not required at birth of any other animal; (b) the imagined necessity to prevent hemorrhage does not exist; (c) to tie for cleanliness is superfluous; (d) it is unreasonable to consider that such an imperfection, as needs ligation, exists.

3. Ligation is in many cases injurious because, (a) it may justly be considered the cause of secondary hemorrhage; (b) by interfering with desiccation, and thus preventing suppuration, it gives rise to ulceration with not infrequent consequences of erysipelas, fungoid excrescences, etc.; (c) it causes inflammation of the funicular vessels by keeping them distended with unnaturally retained blood, hindering their normal obliteration, and laying a foundation for phlebitis, jaundice, etc. By preventing a normal escape of blood and thus causing hyperemia and congestion of the portal circulation, it may lay the foundation of numerous infantile affections apparently originating in congestion of these vessels.

3. Numerous fatal cases attributed to ligation have been recorded by the highest authorities. It can be seen in the new-born that the ligature maintains the ventricle in a state of distension, otherwise relieved by bleeding from hypogastric arteries, and this prevents renewal of the action if the heart has stopped, or hastens its stoppage if it is failing.—*American Medico-Surgical Bulletin*, May 25, 1898.

The History of Pain and the Menstrual History of Extrauterine Pregnancy.

BARTON COOKE HIRST (*Amer. Jour. of Obst.*, April, 1898) has analysed 22 cases of extrauterine pregnancy, to elucidate the value of the history of pain and menstruation for diagnosis. He gives three cardinal symptoms: (1) Pain, characteristic in nature, manner of occurrence, and situation; (2) irregularity of menstruation, often with the discharge of what the patient calls "pieces of flesh:" (3) the following physical signs: For the first two to four weeks a swelling in the tube, no bigger than the end joint of one's thumb, and unadherent; later an exquisitely-sensitive mass fixed in the pelvis by thick velvety adhesions. Pain has been the most helpful symptom in guiding the author to a diagnosis. It may be defined as a pain described by the patient in the strongest terms; occurring in paroxysms with free intervals; appearing at any time from a few days to months after a normal menstruation; situated often in one groin, though often referred to the lower abdomen, and sometimes shooting down one leg or up to the epigastrium; and so severe as to occasion profound systematic disturbance, such as syncope and excessive shock, which the author attributes to pain rather than to hæmorrhage. The characteristic menstrual history of extrauterine gestation is one of irregularity and often not of cessation at all. In 27 per cent. of Hirst's cases there was no cessation, and in 18 per cent. more a menstrual period was only delayed ten to twelve days. Prolonged uterine bleeding, on the other hand preceded or followed by the discharge of decidua, is the almost universal rule at some period in the history of a tubal pregnancy.—*Brit. Med. Jour.*, June 11, 1898.

An Early Symptom of Measles.

SLAWYK, of Heubner's clinic (*Deut. Med. Woch.*, April 28th, 1898), draws attention to the eruption present in the mouth during the early days of measles, first described by Koplik. It consists of shining red spots, in the middle of which there are very minute bluish-white efflorescences. Slawyk says that Koplik's spots have not received the attention which they deserve, and that they represent an absolutely trustworthy and early indication of the disease. During last winter an epidemic of measles broke out in some of the clinics of the Berlin Charité. These cases, along with those of Heubner's clinic, numbered 52 cases, and in 45 of these Koplik's spot were observed. In 2 of the remaining cases the patients were too ill to permit of a satisfactory examination of the mouth. The spots appeared on the mucous membrane of the cheek and sometimes of the lips. They are mostly few in number. A bright light is necessary, as they are not visible in a yellow light. They practically never run together. They are distinguished from thrush by their colour and their rounded contour. They may be picked off with the forceps without pain or bleeding, and they are then seen under the microscope to consist of large masses of epithelium undergoing fatty changes. They have not been observed in other acute illnesses. In every case where they were seen the measles rash followed, so that whenever they were

present the child was at once transferred to the measles ward. Koplik's spots appear on the first or second day of the disease, and increase in numbers up to the time of the skin eruption; they usually further remain for three or four days, so that they last from three to six days. They produce no discomfort. In some cases of measles followed by a stomatitis they were absent. No Prognostic significance can be attached to them, as they were present both in mild and severe cases. Details of 8 illustrative cases are given.—*Brit. Med. Journ.*, May 28, 1898.

Urticaria of Mucous Membranes.

The eruption of urticaria does not affect the skin only, but may extend to the mucous membranes. On some patients it can be observed; on others its existence is to be inferred from the symptoms. Affection of the stomach usually shows itself by vomiting, but in a few rare instances hæmatemesis has occurred. In the *British Journal of Dermatology*, May, 1898, Dr. T. H. Clittenden has published the following case. An unmarried woman, aged thirty-eight years, became subject to attacks of urticaria. They increased in severity; the tongue and lips became very swollen, there was sore-throat with dysphagia and dyspnoea lasting three or four hours, and the mucous membrane of the nose was much swollen and congested. These attacks usually lasted about a week. Later they were accompanied by nausea and by vomiting of large quantities of blood which was followed by relief and the disappearance of the rash. There appeared to be some relation between the catamenia and the hæmatemesis; the latter came on about the first day of former. Menstruation for the most part was regular but very profuse. No cause for the disease could be traced; there was no family history of gout, asthma, or hæmophilia, and the strictest rules of diet had no effect. In the Transactions of the Clinical Society of London, 1885, Dr. Pringle recorded an exactly similar case in a man; he concluded that the hæmatemesis was the result of capillary hæmorrhage from an urticarial gastric mucous membrane. In urticaria of the skin analogous hæmorrhage may take place into the wheals (urticaria hæmorrhagica). The mucous membrane of the bronchi may be affected and a typical attack of asthma may accompany the skin disease. Of this a marked example was published in THE LANCET of May 22nd, 1886, by Mr. T. Davis Pryce. Indeed, apart from such cases of concurrence, urticaria and asthma show many analogies. Idiosyncrasy plays the same prominent part in their causation. These facts lend support to the theory of the late Sir Andrew Clark that asthma is a neurovascular affection of the bronchial mucous membrane.—*Lancet*, June 11, 1898.

Methylene Blue as a Test for Sugar in the Urine.

Fröhlich of Nothnagel's clinic (*Centralbl. f. inn. Med.*, January 29th, 1898) adds to 10 c.cm. of the urine 5 c.cm. of a concentrated solution of neutral lead acetate, and then, after shaking, 5 c.cm. of basic lead acetate solution. When the whole is filtered, an almost

clear colourless fluid should be obtained. Then equal parts of the filtrate and a watery solution of methylene blue (0.3 per cent.) are placed in two different test tubes, and to the tube containing the methylene blue is added 1 c.cm. of a 10 per cent. caustic potash solution for each 5 c.cm., so as to make it strongly alkaline. This latter tube is then heated over an open flame, and the contents of the other tube are poured into it, and the whole boiled. If sugar is present, the dark blue colour is changed to a whitish one; the solution then becomes transparent, and finally a pale yellow. The excess of lead does not interfere with the reaction, for it falls to the bottom. The author generally uses 5 c.cm. of the filtrate obtained from the urine and the same quantity of methylene blue solution with 1 c. cm. of the 10 per cent. solution of caustic potash, but, if the urine contains much sugar, a few drops of the filtrate will suffice. The decolorisation takes place in twenty to twenty-five seconds, but the test tube should not be shaken. If the test is to be successful, the filtrate should possess hardly if any yellow colour. To concentrated urine it is well to add some water. Fröhlich has tried a large number of urines with this test, and has controlled the results in 100 cases by the phenyl hydrazin and Fehling's tests. The lowest limit lies at about 0.04 to 0.05 per cent. of sugar; the reaction with a urine containing 1 in 1000 sugar is slow. Like Le Goff, the author found that neither urea, uric acid, sodic chloride, nor albumen, can reduce the methylene blue. Le Goff has shown that creatin and bile pigments cannot do so either and Fröhlich has proved the same thing as regards creatinin. All the possible reducing substances, such as hæmatoporphyrin, methæmoglobin, bilirubin, biliverdin, urobilin, melanogen, are all precipitated by the lead acetates. Glucaronic acid can, in addition, reduce methylene blue, but it is also precipitated. Thus, under these circumstances, methylene blue is a reliable test for grape sugar in the urine. —*Brit. Med. Jour.*, April 30, 1898.

On the Action of Spermin in Diabetes.

Dr. A. Telnichin reports in the Russian medical journal *Vratch* (Vol. XIX, No. II, p. 333) his personal experience with spermin. In 1898 the doctor met with a severe accident in a railroad collision. Three weeks after the accident he began to show unmistakable evidences of severe diabetes: intense thirst, losing of flesh, great weakness and a very large amount of saccharine urine. The quantity of urine in twenty-four hours was from 300 to 400 c.c. (6 to 8 pints), and the percentage of sugar was from 2 to 2 1-2 [i. e., from 60 to 100 gme., from 2 to 3 1-2 ounces]. All the known remedies, such as lithium salts, Carlsbad salts, sodium salicylate, phenol, iodine, pancreatin, antipyrin, quinine, guaiacol, and *Syzygium jambolanum*, etc., were tried in succession, but with very little or no results. The best results seemed to be given by the last two remedies (guaiacol and *Syzygium jambolanum*), but they were temporary in character. The doctor's attending physician, Dr. Litkin, then recommended the subcutaneous employment of spermatic fluid. In three weeks there was a very evident improvement. There was an increase in strength,

the mental faculties became brighter, the difficulty in defecation and urination became less, and at the end of three months the daily quantity of urine fell to five pints and the percentage of sugar to 1 1-2 per cent. The spermatic fluid employed was prepared personally by the author and by the attending physician, Dr. Litkin, from the testicles of bulls and dogs. After many experiments they succeeded in preparing a perfectly clear transparent fluid, which in hermetically sealed bottles keeps for three months, without the addition of glycerin or phenol. It is three years now since the author began the employment of spermatic fluid, and he says he "lives" on it; he uses it for two months at a time, making daily injections; he then stops it for two or three months, but at the end of the third month the severe symptoms begin to return, he begins to feel weak, thirsty, etc., so he must recur to the spermin injections. The author says that he is certain that the beneficial effects of the spermatic fluid are real and not due to auto-suggestion. Concerning the diet, the author convinced himself by repeated examinations of his urine that complete eschewing of starchy food had little effect on the quantity of sugar. Preserves, candy, and sugar, on the contrary, had a distinctly unfavorable effect; in all cases where sweetening is required, the author uses saccharin, from which he has observed no injurious after-effects whatsoever. Otherwise he does not restrict himself in his diet. In conclusion, the author reports briefly four cases (one of neurasthenia, two of locomotor ataxia, and one of senile impotence) in which the injections were employed, with favorable results (at one time the author tried Poehl's spermin, but the action seemed feebler, and besides it was too expensive for him.—*American Medico-Surgical Bulletin*, May 10, 1898.

Krypton.

An additional discovery in regard to the composition of the air has been made in a London laboratory, but for a reason which does not appear the announcement was made in Paris by M. Berthelot on June 6th before the Academy of Sciences. It was communicated in a letter from Professor Ramsay of University College. It is interesting to wonder whether such a course was dictated by personal or political motives, but surely the investigations of pure science should be beyond such influences. Still, the departure not unreasonably suggests something of the kind. It is well known that Professor Ramsay has expressed doubt as to the achievements of Professor Dewar in connexion with the liquefying of hydrogen being the first of the kind, and before the Royal Society when Professor Dewar announced the liquefaction of hydrogen in practical quantity Professor Ramsay said that Professor Olszewski of Cracow had done the same thing some years ago. There appears, however, strong reason for doubting whether Professor Olszewski succeeded in doing anything like that which Professor Dewar has accomplished lately at the Royal Institution, and we learn that Professor Ramsay has now admitted as much. Professor Dewar has produced liquid hydrogen in sufficient quantity to enable certain constants to be made and one of the important conclu-

sions he has recently arrived at is that the reaching of absolute zero is practically a physical impossibility, since even when employing liquid hydrogen for the purpose the lowest possible temperature attained is 20 or 30 degrees higher. Professor Dewar was the first to show the method of preparing and preserving liquid air in large quantities, and to this achievement Professor Ramsay most probably owes his quite recent discovery of yet another constituent of the air. That being so, the present should serve as an excellent opportunity for sinking all questions of priority. We would refer all scientific controversialists to the excellent words contained in a lecture by Dr. W. J. Smith Jerome published in our issue to-day. He says, alluding to the paradise of toil, that there may enter into it "one insidious sin—the lust of what is called priority. This must be fought against and overcome or else, like a gathering cloud, it will, if left unchecked, roll onwards and darken all. And why should it not be fought against and overcome? Each fact discovered in the pursuit of knowledge, discovered it matters not by whom or when, and even when unimportant in itself may prove a stepping stone by which that knowledge mounts to other and far higher things. This is the worker's real recompense; it is this pregnant possibility which makes work, honest work, like virtue, its own great reward." The newly-discovered gas Professor Ramsay proposes to call "krypton," from the fact that it has been concealed from observation until now. It occurs with the argon after separation from oxygen and nitrogen of the air by now well-known methods. How krypton is separable from argon is not yet announced. Krypton belongs to the helion group, its density is somewhat greater than that of oxygen and it appears to be simple in constitution and mon-atomic. It gives a characteristic green line in the spectrum. This discovery may be of marked importance in clearing up the apparently anomalous behaviour of argon and helion and the difficulty of finding a place for them in Mendeleëff's wonderful classification of the elements.—*Lancet*, June 11, 1898.

Cranial Percussion.

PAOLI AND MORI have made an extensive series of observations (*Il Policlinico*, February 15th, 1898) on the value of percussing the cranial cavity as an aid to diagnosis in cases of intracranial disease. They begin by giving a careful account of the results obtained by percussing the normal skull. They point out the necessity of shaving the head in cases where the hair is thick, and they prefer to percuss with the finger directly on the surface. They recommend the division of the cranial surface into three symmetrical parts—frontal, parietal, and occipital, and in each of these regions there are constant points, so that the note of one side may be gradually compared with the corresponding note of the other. In the case of the frontal and occipital regions there are median points as well. By their investigations they find that a dull note is found in a very limited extent, the rule being a high degree of resonance, with well-marked differences according to the portion percussed. They also find that the results

vary with age and sex, and, to a certain extent, with the density of the skullcap. They also find that the sense of resistance varies in different instances. Thus in boys in the first decade there is a notable resonance in the note, more particularly in the temporal and parietal regions, while in some portions of the frontal (more particularly over the sinuses), and in the occipital, the note is fairly dull. In boys the subjects of rickets the note is still more resonant, and sometimes a crack-pot element is perceived. In adults the note varies to a certain extent; in women there is more resonance, the note resembling rather that obtained in childhood, and a crack-pot element sound is not uncommon. In the adult man the resonance is much less than that obtained in women and children, and the areas over which the dull note is heard are much more extensive. In advanced age the opposite obtains, for in old women the resonance is considerably diminished, while in old men of the same age it is much more marked than earlier in life. The authors therefore draw attention to the fact that want of symmetry in the cranial development must be looked for. The areas which generally give a dull note are the parts over the frontal sinuses and mastoid processes, especially in young children, which the writers regard as curious in view of the fact that there are air spaces in both these situations. After ascertaining these facts the authors proceeded to examine patients with different forms of intracranial disease. Their first case was a boy suffering from epilepsy, who had fractured his frontal bone by falling. Percussion showed marked dullness all over the portion corresponding to the fracture. The patient was subsequently trephined, and considerable thickening of the dura was then discovered, with a large layer of hæmorrhagic infiltration in the form of hæmatoma, and exactly corresponding with the area of dullness. Several other cases of fracture were similarly examined, and the writers were enabled to note marked degrees in the amount of resonance. Another case is quoted in which, as the result of a fall, a patient lost the use of his right hand and arm and speech. On examination a wound was found over the right half of the occipital bone, and careful percussion showed a marked decrease in resonance on the left side of the head over the parietal. The patient improved considerably, and subsequently regained the use of the right hand and arm, and at the same time percussion showed a return of resonance over the left motor area. The authors consider that this method of examination is likely to prove of considerable service in certain cases of injury to the head.—*Brit. Med. Journ.*, May 21, 1898.

Music as a Sedative in Neuralgia.

Mr. Gladstone during the many weeks of acute neuralgia which ushered in the last phase of his fatal illness is said to have found great relief in music. Mr. Herbert Spencer is said to have had recourse to music for the relief of nervous disturbance; and the Empress of Austria is reported to have been cured of neuralgia by certain strains of sound repeated at frequent intervals. Many other less illustrious sufferers have had their pain charmed away by the

same sweet medicine. The "music cure" had considerable vogue some time ago in Germany, and a special hospital for its systematic application was, we believe, established in Munich. It is probable that music acts in such cases by diverting the attention, the pleasant impression overpowering and for the time obliterating the painful sensation. Attempts have, however, been made to show that music is something more than merely a sweet oblivious antidote. Nicolai, of Halle, a pupil of Hoffmann, and a disciple of the iatro-mathematical school, contended that the vibratory movements of the tympanum produced by musical sounds set up some kind of oscillatory movement in the nerves, and thus soothed the disturbed brain. Ferrari has quite recently suggested that the effect of music is to be explained by its acting on the organ of hearing in a manner analogous to massage, and so bringing the brain centres under the influence of "vibration treatment." An American physician, Dr. William F. Hutchinson, of Providence, Rhode Island, made a series of experiments as to the possibility of producing anæsthesia by very rapidly repeated blows, which may perhaps throw some light on the sedative effect of music. By arranging a number of small hammers with elastic handles on a revolving wheel, he was able to make a rapid percussion, each stroke representing a weight of 10 grains, and being repeated four hundred times a minute. This number of strokes did not materially lessen the sensibility of the part to which they were applied. Dr. Hutchinson afterwards succeeded in getting constructed an induction apparatus consisting of very carefully measured coils, and having a rheotome, made of metallic ribbon, which could be made to vibrate very rapidly. By means of very accurately made tuning forks he measured the number of vibrations which this "singing rheotome" made in a minute, and found that when it sounded the note of C major, representing 540 vibrations per second, anæsthesia was produced, but if the interruptions were made still more rapid, this effect was lost. The change in the number of vibrations was produced by altering the tension on the rheotome, and this tension was so great, 740 pounds to each centimetre in length, when tuned to C major, that steel was not strong enough, and it became necessary to make the metallic ribbon of phosphor-bronze. Three Burnley cells were used to run the apparatus. By experiments on himself and others Dr. Hutchinson had found that with the number of vibrations corresponding to A major 540, one minute was sufficient to produce numbness; on stopping the current there was a rapid return of sensation. An attempt was then made to produce local anæsthesia on a patient suffering from a whitlow on the finger. The finger was placed in a metallic tube partially filled with sponges moistened with salt water. Starting with A major and running up to G major during a period of three minutes, it was found that the sensibility had been scarcely diminished; but when the rheotome had tuned to C major sufficient anæsthesia was produced in three minutes to allow of an incision being made in the whitlow without the patient suffering any pain whatever. In a case of tic douloureux, in which galvanism and franklinism had both been tried and had proved useless, the induced current

from this machine was tried, the rheotome being adjusted to C major, and the negative electrode being applied to the nape of the neck and the other to forehead. In five minutes the pain had sensibly diminished, and in ten minutes it had been completely relieved, and the patient was able to enjoy the first sleep for two days. In Dr. Hutchinson's experience every kind of pain yielded equally well to the currents produced when the rheotome was adjusted to C major. It would appear, therefore, that the note C major produces vibrations which neutralise the disordered vibrations in the affected nerve. It might, perhaps, be worth while to try the effect of airs in which C major predominates in cases of neuralgia. It would, however, be prudent for the experimenter first to assure himself that the patient is not one that hath not music in himself, nor is not moved with concourse of sweet sounds; otherwise he might find himself made the subject of experiments in rapid percussion and vibrations tuned to D major, which would have an effect the reverse of anæsthetic.—*Brit. Med. Journ.*, June 4, 1898.

CLINICAL RECORD.

Foreign.

CASES OF CURE WITH VISCUM ALBUM.

By DR. GEORGE BLACK, M.B. Edin.

CASE I.—*Myalgia*.

Miss F., aged 57, dark hair and eyes, medium height and stoutness, still quite "regular," consulted me on Feb. 6th, 1898, and complains of pain between the shoulders. The movement of the shoulders hurts her more than anything. "When I get out of bed mornings I can scarcely dress myself, there is so much pain. When I'm lying in bed, after I have been lying some time, towards morning, then it begins." After she has been up and moving about for some time she doesn't feel it. "Now it is aching; I can feel it is there. The second joint of the right middle finger swelled up the other day, but this is now gone, it went away after a time. I had it about a week." Viscum album 30, five drops on S. L. once, at 5 p.m.

Tuesday, 7th. Better; in less pain than she has been during this attack.

Friday, 10th. Complains of a tingling feeling coming from the right shoulder forward under the axilla to the breast. Viscum album 30, 12 drops in half a tumbler of water; a dessert spoonful every four hours.

I met Miss F. out to-night. She was stepping along briskly, so much so that I scarcely thought it could be she. She said, "You will be glad to know that I am much better; the pain is not gone yet, but it is deadened, and I feel a lot better than I did."

Monday, 14. "I'm a great deal better. The pain is not quite gone, but I am a good deal better. I feel it for a couple of hours in the morning, but it is nothing compared with what it was; I can dress and all that now without singing out. I haven't felt the pain in my side since I began to take the medicine, but I feel it just where

the pain was between my two shoulders." The swelling of the finger joints gradually subsided and there has been no return.

CASE II.—*Lumbago*.

Mrs. A, aged 30, dark brown hair, dark grey eyes, stout, was seen on Tuesday, March 1st, 1898. She told me she went into town on Saturday evening, and after she came back and had taken off her things, she shivered. Sunday morning her back was very bad; seemed like anyone tearing it to pieces; she felt as if she wanted something to press against it. She complains much of her back to-day; is obliged to get some one to help her before she can raise herself up. "When I move my left arm it seems to affect my back. Just to draw my foot up it pains me." The situation of the pain is the lumbar region and up along the spine. Temp. 98°, P. 72. Tongue clean. "I keep feeling starving, yet can't fancy anything to eat." When she coughs it causes great pain in the chest and back. Yesterday she expectorated some dark greeny-yellow phlegm. Viscum album 3 every two hours.

Wednesday, March 2nd. She can sit up in bed by herself to-day, and can turn from side to side; there is much less pain in the back.

CASE III.—*Lumbago*.

Mrs. M. aged 60, a thin, fragile woman, with silvery hair and brown eyes, has been suffering from catarrh of the bladder, which was improving under ferr. ph. and kali chl. On Sunday, the 28th Feb., 1898, I saw her, when she complained that on the previous Friday and Saturday she felt cold and shivery, and couldn't get any heat into her. Saturday, she felt pain in the right lumbar region, extending to the right buttock; to-day the pain has been much worse. It is very painful to move; the slightest movement aggravated the pain. Temp., 101°, P. 112. Face flushed, tongue grey-coated. There is much pain in the right lumbar region and down towards the right buttock. Viscum album 3 every hour.

Monday Feb. 21. She can move a little better this morning. Temp. 99°, P. 96. Continue.

Tuesday, 22nd Feb. Temp. normal, P. 72. She says she feels better; the pain in her back is almost gone; she can turn and move about now with only the least sense of pain. "It is wonderful," she added "that I have so quickly got relief. I never knew anything like it before."

CASE IV.—*Rheumatism of Lumbar Aponeurosis*.

Mrs. R., aged about 45, fair, of medium height and stoutness, sent for me on February 23rd, 1898, and complained that she was seized with pain at the lower part of the back (sacral region) two days previously. Couldn't turn either to the right or left. The pain was greatly aggravated by movement. She at once took aconite, which she has continued since, and applied hot salt and hot water bottles, which have to some extent relieved her. It still hurts her very much to move. The bowels have been painful, and her sides. When she was first taken, it was after exposure to damp, she became cold and shivered. The pain she describes as of a terrible clutching

nature, as if her vitals were affected. At first she had to pass water very frequently; not so frequently now. Temp. 99°, P. 72. Act. rac. \mathcal{Q} 4 drops in a tumbler of water; a dessert-spoonful every two hours.

Thursday 24th. Not any better. Temp. 99.4°, P. 80. Her eyes filled with tears, she complained much of pain on the slightest movement. Viscum album 3 every two hours.

Friday 25th. Had a better night, can move better and feels much better. Temp. 100°, P. 72. Continue. The fever gradually diminished, and in two or three days she was downstairs, all pain having gone from her back.

I have used viscum album several times in the treatment of metrorrhagia, but I do not know that I have got a single encouraging result, and in the cases of retained placenta in which I have given it—three in number—the result has been nil.

Some Rheumatic Cases.

On September 24th, 1895, I was consulted by Miss _____, aged 54, in whom menstruation was still proceeding perfectly regularly. She complains that her joints have got worse and worse, they ache and gnaw, "the weight of my body on the joint causes it to be very sore. This morning I nearly fainted with it. I perspire so dreadful. Sitting like this it don't ache, but if I were to sit up on this couch I couldn't be still a minute, it would begin to gnaw; it's dreadful in bed—the whole knee seems on fire, it keeps me awake, I can't get off to sleep. While moving there is relief for two or three minutes, but as soon as I am still the pain sets in." The patellæ have a lumpy, nodulated appearance and feel, and she complains of great pain all round left patella, which is very tender to touch, especially at inner aspect. The left knee is swollen in comparison with the right. She says "You can hear my joints 'scroop' as I go upstairs." Some of the metacarpophalangeal articulations became swollen. Urine is normal in appearance. Viscum album 3, 12 drops in a tumbler of water, a dessert-spoonful three times a day. The report I have, without any date, is, "this relieved her, the next day she was better."

Mr. _____, aged 60, reddish hair, a weakly delicate man of a hæmorrhagic diathesis, consulted me on February 21st, 1894, and complained that the previous week he didn't know where to put his legs, they ached so. He was standing in the garden in the damp, watching some men working at the drains. Went into the greenhouse in his slippers. Was out walking about on Sunday and felt nothing amiss. On Monday on getting out of bed he felt his left ankle painful; hobbled downstairs, since then it has been painful, especially when he attempts to move it, and more particularly from side to side. Can't move it either side without pain, the up and down motion hurts him. The joint is swollen and tender on pressure, especially when the malleolus is pressed against the joint. No other joint is affected. Viscum album 3, 12 drops in half a tumbler of water, a dessert-spoonful every four hours.

Monday 26th. Downstairs. All swelling gone, can move it without pain in every direction.—*Monthly Hom. Review*, June, 1898.

Cleanings from Contemporary Literature.

THE VIRUS OF VACCINIA AND ITS CULTIVATION.

By A. F. STANLEY KENT, M.A. OXON.

The identification and culture of the virus of vaccinia has for many years proved a problem of such difficulty as to baffle the endeavours of some of the most brilliant workers in bacteriology. Perhaps this is in some measure owing to the fact that the methods of bacteriology have been employed almost to the exclusion of histology, the idea that histological methods could afford any assistance having occurred apparently to very few. Nevertheless, that all experiments having for their starting point the collection of lymph from the vaccine vesicle would have to contend with the presence of multitudes of extraneous organisms will be evident to anyone who is conversant with the flora of the skin. It is indeed a matter of common knowledge that micrococci of various species—especially the staphylococcus pyogenes albus and staphylococcus pyogenes aureus—besides being present in large numbers on the surface and in the dead superficial cells of the stratum corneum, swarm in the openings of the hair follicles and even penetrate in them to a considerable depth.

It is for this reason that there arises so extreme a difficulty in sterilising the skin of patients about to undergo surgical operations, and when the object is to obtain lymph from vesicles in the skin itself and to obtain it free from extraneous organisms it is apparent that the task is one calling for the exercise of the utmost care. All attempts to identify the virus by ordinary bacteriological means having failed I proposed to investigate the problem by somewhat different methods. It seemed probable that whatever organisms there might be in the vaccine lymph, at all events in the tissues around the vesicle, one might reasonably hope to find the specific virus in a state of comparative purity. Accordingly I undertook the preparation and examination of a large number of sections of the vaccine vesicle and its surrounding tissues. The preparations were made by vaccinating a susceptible animal in a suitable manner, excising the resulting vesicles at stages of their growth varying from a few hours after inoculation to their latest development, fixing and hardening these specimens by the best methods known to me, and, finally, after sectioning them, subjecting them to several different methods of staining. At the same time lymph was collected of different ages and examined bacteriologically. Some short account of the results obtained was communicated to the meeting of the British Medical Association at Bristol in 1894.

Of the extraneous organisms found it is necessary to say very little. Of course, upon the free surface of the sections, and especially in the openings of the hair follicles, there appeared crowds of micrococci. They were very obvious, occurred in clumps and masses of all sizes, and were as easily stained as is usually the case. They occupied not only the surface of the skin but extended also a considerable distance into the hair follicles, occurring as clumps of varying size and in the deeper parts as groups of two, three or more. In the tissues immediately bordering on the breach of continuity in the skin small numbers of these organisms may sometimes be seen. In the deeper tissues, however—i.e., a short distance from the actual breach in the surface—they are conspicuous by their absence.

Whilst asserting the absence of the extraneous organisms I am far from denying the presence of other organisms in the tissues surrounding the vaccine vesicle—indeed, the exact contrary is the case—and I attach much importance to the fact, which I first pointed out in 1894, that there do exist organisms both in the vesicle and also in the surrounding tissues for a con-

siderable distance from the site of the original lesion—organisms which in their morphological characters, their distribution in the tissues, their relation to cells, and their staining reactions are separated sharply off from the other organisms ordinarily associated with the processes of vaccinia. Morphologically they may be described as small—indeed, exceedingly minute—bacilli, about 1 micron in length and rather less than a half of this in thickness, with rounded ends, and usually occurring in pairs forming diplo-bacilli or dumb-bells. Photographs of these organisms were shown at the Bristol meeting of the British Medical Association in 1894. *Morphologically, then, they appear to resemble the minute bacilli described by Klein, and independently by Copeman and myself, as occurring in early vaccine lymph, and I take it that the occurrence of these organisms also in the tissues under circumstances immediately to be described lends some probability to the view that they are fundamentally concerned in the causation of the disease. The distribution of these organisms in the tissues is a point of great importance. Unlike the extraneous organisms, they are not present in countless multitudes at the surface of the skin and in the hair follicles. Indeed, as has been shown previously, they are absent from, or present in small numbers only in, lymph taken from vesicles after the fourth or fifth day from inoculation, whilst the extraneous organisms seem actually to increase in number as time goes on.

On the other hand, the bacillus, which for convenience it may be well to call simply "diplo-bacillus vacciniæ," is present in the tissues surrounding the vaccine vesicle, not only soon after inoculation, but even up to the twelfth or fourteenth day and probably even later. It is of interest to note that it does not occur in the tissues as colonies or irregular masses, but is for the most part contained in cells. These cells appear often to be wandering cells; some, however, are of the nature of fixed corpuscles. As stated above the presence of these organisms in the tissues surrounding the vaccine vesicle may be recognised in specimens taken at all stages of the disease up to about the fourteenth day and the number does not seem to be materially lessened in preparations made at the later dates. Their presence is the more significant when it is remembered that they are present in what is practically a pure culture, for the extraneous organisms, though numerous on the surface, are absent from the deeper tissues affected by the diplo-bacillus vacciniæ. The staining reactions of this bacillus are also of interest inasmuch as they afford some explanation of the extreme difficulty encountered in demonstrating its presence. For to stain the bacillus at all was found difficult and this difficulty has undoubtedly stood in the way of its earlier recognition. Most of the ordinary aniline dyes are unsatisfactory for the purpose and it was only by following out a somewhat complicated modification of Gram's method that I was able to stain it with certainty in the tissues. However, that the method is satisfactory is, I think, proved by the photographs which were shown at Bristol in 1894 and by preparations that were there exhibited.

I consider, then, that the morphological characters, the distribution in the tissues, the relation to cells and the staining reactions, together with the fact that cultures containing this organism produce in the calf and in children typical vaccine vesicles—vesicles which in their turn contain the same virus—sharply separate this diplo-bacillus off from the other so-called extraneous organisms and give support to the view that here at last we have before us the true germ of vaccinia. There are additional considerations which lead to the same conclusion. As will be remembered, a statement has been made that the peculiar minute bacilli described as occurring in early lymph are absent or nearly absent from lymph taken at a later date. In connexion with this it is significant that both Klein and I have described in these organisms bodies which have the appearance of spores and have

noticed the possible explanation by this circumstance of the permanence of vaccine lymph when preserved dry upon points. It is further to be noted that although the bacilli appear to be absent, or nearly absent, from mature lymph this is by no means the case with the tissues, the bacilli being recognisable in these until quite a late stage of the disease.

It is of course quite possible that the different conditions obtaining in the two situations are sufficient to determine on the one hand the formation of spores with subsequent or simultaneous breaking up of the bacilli and on the other a persistence of the ordinary form. Nevertheless, it appeared to me to be probable that in the case of lymph stored in contact with glycerine some development of the spores, supposing such to exist, might reasonably be looked for and this appeared the more probable from the fact, observed by many, of the great extent to which it is possible to dilute lymph with glycerine without injuring its power, and still more from the statement that lymph when so diluted and stored actually increases in virulence. I have accordingly examined a number of samples of glycerinated calf vaccine lymph and by the special methods of staining above alluded to I have been able to satisfy myself that whatever may be the case with late and mature lymph, in glycerinated lymph which has been kept for a few weeks the diplo-bacillus vacciniæ is undoubtedly present. One explanation may, of course, be that in addition to the lymph itself a certain quantity of vesicle pulp would be used in the preparation of the glycerinated lymph and the bacilli may have come from this, but in most of the samples examined the solid material taken was reduced to a minimum and therefore this source of error was much lessened.

Another thing which tends to strengthen belief in the specific nature of the diplo-bacillus is the fact that, as briefly noted in a joint communication by Dr. Copeman and myself to the Bristol meeting of the British Medical Association in 1894 and more fully described by Dr. Copeman in the following year in London, a method was devised whereby it was found possible to cultivate an organism morphologically identical with the above and to produce by the inoculation of such cultures upon calves vesicles which very closely resembled those of ordinary vaccinia. And, further, I have shown that in vesicles produced by inoculation of cultures the same organism exists and has the same relative distribution as regards cells and extraneous organisms as I have described as characteristic of the diplo-bacillus vacciniæ.

It was, however, very desirable that in addition to the cultures made in eggs other media of a more convenient character and capable of being solidified should be devised. I had already made very numerous experiments with all the ordinary culture media and with modifications of these without attaining any satisfactory result. Early in 1895, however, I was more fortunate and at the meeting of the British Medical Association held in London in that year I was able to report that some measure of success had been obtained. My experiments were conducted upon the supposition that it should be possible to prepare some special mixture of albumen and glycerine so proportioned that whilst the former would afford nourishment and encourage the growth of the vaccine virus the latter would prevent the growth of extraneous organisms and so do away with the necessity of sterilisation by heat.

The following is a typical experiment copied from my notebook: "April 18th, 1895: Lymph was collected from the calf at the National Vaccine Establishment in Lamb's Conduit-street. It was inoculated upon a culture medium consisting of egg albumen with the addition of 10 per cent. of pure glycerine and incubated at 37°C." Five days after inoculation I have a note to the effect that there are many white colonies floating in the fluid, together with a growth which I compared with cotton wool. This cotton-

wool-like growth I believe, for reasons which I shall presently set forth, to be the vegetative form of the diplo-bacillus vaccinia. At the same time that the above cultures were made I also inoculated with vaccine lymph tubes of the same culture medium which had been solidified by heat. The note here is that colonies, orange and yellow, are present. There was also upon the surface of the culture medium a thin film-like growth which I took to be the expression on the solid medium of the formation of the cotton-wool-like growth in the liquid. The coloured colonies consisted of staphylococci. Experiments were also carried out with media containing 15 per cent of glycerine, and in these the liquid tubes showed fewer of the white colonies but more luxuriant cotton-wool-like growth, and on the solid form the orange colonies were usually absent whilst the filmy growth was more pronounced. Finally, when the medium was made up with 20 per cent. or more of glycerine, the liquid tubes showed no colonies whilst the cotton-wool-like growth was well marked. These results were briefly alluded to at the meeting of the British Medical Association held in London in 1895.

On first observing the above-described cotton-wool-like appearance in the culture tubes I was of opinion that it represented a slow and incomplete coagulation or precipitation of a portion of the albumen contained in the medium, such precipitation being due probably partly to the action of the glycerine and partly to the dilution combined with the incubation at 37° C. As is well known, egg albumen is a complex mixture and contains several proteids which coagulate at different temperatures; moreover, the exact temperature at which coagulation takes place is determined by the concentration of the solution and the quantity of salts present. The coagulation temperature is generally given as from 70° to 73° C., but Gantier states that coagula may also be obtained at 51° and 63°, whilst according to Corin and Berard, by applying the method of fractional heat coagulation to filtered white of egg, coagula may be obtained at 57·5°, 67°, 72°, 76°, and 82°, the first two being due to globulins, the others to albumins. It seemed probable, then, that by mixing egg albumen with glycerine and subjecting it to incubation some amount of precipitation of proteid might be produced and this was rendered more likely by the experiments of W. Ramsden, who showed that by a prolonged action of heat a precipitation of albuminous fluids might be brought about at a temperature considerably below that generally assigned as specific for the body under consideration.

Accordingly I made numerous control experiments by mixing with egg albumen varying quantities of glycerine and submitting the resulting mixtures to similar conditions of incubation as obtained in the case of the culture tubes. Treated in this way it was found that in the case of tubes containing an addition of 33 per cent. of glycerine after a short time a certain amount of a woolly material appeared as clumps and cloudy patches in the fluid. It appeared, however, to consist of a definite solid substance suspended in a bright and transparent liquid and no general opalescence or cloudiness of the fluid was produced. In the case of cultures, on the other hand, the solid portion was much more finely divided and produced a definite opalescence in the liquid. Larger flakes of a peculiar semi-transparent character were also present, and at the upper edge of the fluid there was often observed a film-like portion of growth. In tubes containing a less proportionate amount of glycerine—viz., about 16 per cent.—and in which the albumen was about 33 per cent., a greater degree of opalescence was produced, but no increase in the cloudiness was observed to occur after the first few days, whilst in the case of similar tubes inoculated with vaccinia the opalescence was much greater, continued to increase and was accompanied by the formation of a flaky semi-transparent material, especially at the upper part of the tube where the fluid was in contact with air.

In solid media it is of course less easy to make out the exact characters of the growth, in consequence of the physical condition of the nutrient material. It is, however, possible to ascertain that in its general characters the growth corresponds to the film-like material seen at the upper part of tubes containing liquid culture material.

Having thus succeeded in obtaining a growth in special culture media inoculated with vaccine lymph I next experimented with similar media inoculated with lymph which by admixture with glycerine and subsequent storage had been freed from extraneous organisms. These experiments gave results indistinguishable from those above described, with the exception that in no case did coloured colonies appear. Moreover, when cover glass preparations had been made and appropriately stained microscopical examination revealed in every case the presence of groups of organisms morphologically indistinguishable from that above described as *diplo-bacillus vacciniæ*. Further, in the majority of the experiments they were the only organisms present, but in a few cases they were accompanied by extraneous germs. These cultures have been used for the inoculation of calves and have given results which tend to support the view of the specific nature of the bacillus.

It may perhaps be suggested that the finding of the organisms in the cultures is no proof of their multiplication in the artificial medium, since the individuals observed microscopically may have been some of those present in the original lymph used for establishing the culture. In answer to this objection I need only say that the cultures have been carried on from tube to tube and also the quantity of lymph used in the first inoculation was only 1-105000th of the quantity of fluid with which it was mixed. So that although in the tubes of the first generation cover-glass preparations might conceivably reveal the presence of an occasional bacillus, the occurrence of numerous groups would be most unlikely and would approach impossibility in the case of subsequent tube-generations had no multiplication taken place meanwhile. As mentioned previously, in a communication to the British Medical Association in 1894 it was stated that cultures of an organism morphologically indistinguishable from the above, but obtained from variolous crusts, when inoculated upon calves produced phenomena which up to the fourth day were similar to those produced by normal lymph, whilst in 1895 Dr. Copeman communicated to the association the further fact that by passing such cultures through two successive calves a lymph was obtained which produced typical vaccinia in a child. The cultures with which these results were obtained were fully described by Dr. Copeman in 1895. The medium used was the hen's egg, the yolk and white being well mixed together and subsequently inoculated with variolous material. Certain disadvantages were found to result from the use of such nutrient material. Transparency was lacking, subcultures failed, and isolation of special organisms by plate cultivations was not practicable. It was whilst endeavouring to improve upon these early attempts that I hit upon the plan of using the egg-white apart from the yolk and mixed with sufficient glycerine to inhibit the growth of extraneous organisms.

The result has been so far successful that I am now able to place the *diplo-bacillus vacciniæ* under circumstances such that its multiplication is apparently possible, and to prepare cultures containing it in a pure state.—*Lancet*, May 21, 1898.

A CONTRIBUTION TO THE PHARMACOLOGY OF THE MAMMALIAN HEART.

By ARTHUR CUSHNY, A.M., M.D. *ABERD.*,

Professor of Materia Medica and Therapeutics in the University of
Michigan, U.S.A.

The effects of drugs on the mammalian heart have hitherto been experimentally studied chiefly by an indirect method, the graphic registration of the arterial blood pressure by means of the manometer, the results thus obtained being interpreted by the aid of the changes observed in the frog's heart. Although the value of this procedure is undoubted, it seems high time that some of the direct methods which have given such valuable results in the hands of the physiologist should be introduced into the pharmacological laboratory. The numerous factors on which the tension of the arteries depends render deductions as to the condition of the heart very insecure, while the reaction of the frog's heart to poisons is often very different from that of the mammalian. A systematic examination of the effects of some of the more important drugs has therefore been carried on by direct methods in the pharmacological laboratory of this University during the last three years.

METHODS.

The rabbit's heart was observed directly by dividing the sternum and opening the pericardium, while the cardiometer of Roy and Adami was employed to register the movements of the cat's heart, and a somewhat modified form of their myocardiograph was used in experiments on dogs. The rabbits were anesthetised with urethane, the cats and dogs with morphine and chloroform acetone.

1. DIGITALIS SERIES.

A number of drugs of this series (digitalin, digitoxin, strophanthin, antiarin, erythrophilæm, convallamarin, oleandrin, etc.) were examined, and all gave very similar results. After therapeutic doses, the rhythm of the heart was slowed, the relaxation of the ventricles was considerably increased, and their contraction rendered more complete. The auricular systole was generally weaker, while its relaxation appeared unaltered, although the last could not be measured accurately. The contraction volume, or amount of blood rejected at each ventricular contraction, was increased, the total output per minute augmented to a less extent.

When the vagi were paralysed by the injection of atropine previously digitalis produced a very different result. The rhythm was then unchanged, while the ventricular systole became much more perfect than before, and its dilatation during diastole was either unchanged or was less than that before the injection. The changes in the auricle were identical with those in the ventricle. The contraction volume and the output per unit of time were augmented in equal proportion, and often to a much greater extent than when the vagi were intact.

The changes seen in hearts in which the inhibitory mechanism is uninjured are, therefore, due to two distinct and separate factors—the stimulation of the regulating apparatus, (chiefly in the medulla oblongata) and the direct action on the cardiac muscle, which is observed in the heart after the former has been paralysed by atropine. The slow rhythm and increased dilatation of the ventricle are due to the inhibitory stimulation, which would also lead to a less perfect systole were this effect not opposed by the direct muscular action. In the auricle the inhibitory action overbalances the muscular, so that the latter at first appears to be wanting, but is shown to be present by the atropine experiments and also by more careful examination of the other tracings. The vagus effect would also lead to a lessened contraction volume and output were it not for the compensatory in-

crease in the ventricular systole. It is to be remarked that the muscular action does not prolong the systole in the mammalian as it does in the frog's heart. The blood pressure rises in this stage, partly from the increased output of the heart and partly from contraction of the vessels.

Poisonous quantities of these drugs may cause two entirely different results, according to which of these two factors is thrown into the greater prominence. If the inhibitory stimulation is the more pronounced, the rhythm becomes extremely slow and somewhat irregular, the ventricular relaxation is more marked than after therapeutic doses, and the systole is often reduced in strength. The auricle generally ceases in diastole, and the output falls to a very low point. These symptoms are often accompanied by cyanosis and dyspnoic and convulsive movements. The heart then gives a few rapid contractions and the ventricle passes into delirium. On the other hand, if the muscular action is the more highly developed, the ventricle assumes an independent rhythm, which undergoes rapid acceleration. If the auricle continues to beat at a different rate, there results a periodic variation in the extent of contraction and relaxation both in the auricle and ventricle, which gives a characteristic appearance to this part of the tracing. With advancing intoxication these periods become shorter and less regular, and, after a stage of extreme irregularity the ventricle ceases its contractions and goes into delirium cordis, while the blood pressure, which has been slowly falling as the heart becomes more irregular, descends to zero.

2. ACONITINE AND VERATRINE.

In therapeutic doses these produce slowing of the rhythm, increased relaxation and less complete contraction of the ventricles and auricles, owing to their stimulating the inhibitory centres in the medulla oblongata. They have no direct action on the heart except in very large quantities, when they produce an independent ventricular or auricular rhythm and consequent irregularities, which sometimes resemble those following poisonous doses of digitalis. Aconitine is more apt to cause these than veratrine, which, on the other hand, we found to stimulate the inhibitory centre more strongly.

3. CAFFEINE.

Intravenous injections of small quantities of caffeine (0.03 to 0.05 g.) had often little effect on the dog's heart, although distinct acceleration occurred in some experiments after 0.05 g. Larger doses were followed by marked acceleration, for example, from 90 to 117 beats per minute after 0.2 g. This acceleration was not accompanied by any distinct alteration in the strength of contraction or in the extent of relaxation and only lasted from 10 to 20 minutes. In very large quantities caffeine sometimes elicits an independent ventricular rhythm, which again leads to the rhythmical variations mentioned under digitalis.

4. STRYCHNINE,

even in large quantities, has no direct action on the heart but often causes some slowing from inhibitory stimulation, which, however, is not nearly so marked as that observed after aconitine and veratrine. The blood pressure is increased by doses which are too small to increase the reflex irritability to any very marked extent.

5. NITROGLYCERINE

does not increase in any way the contraction or efficiency of the heart. In fact it has no effect on that organ save in large doses, which weaken the systole, especially that of the auricle. This effect seems to be due to a direct action on the heart muscle, perhaps aided by the changes in the blood.

6. ALCOHOL:

injected intravenously does not in any way increase the efficiency of the

heart. The smallest quantity from which any result was observed was equivalent to $\frac{1}{2}$ c.cm. of absolute alcohol, and produced a transient weakness of the auricular systoles. Very much larger quantities (equivalent to $7\frac{1}{2}$ c.cm., absolute alcohol) were required to produce any permanent injury, and even these did not materially affect the rhythm, but only the strength of the contractions. Even 20 c.cm. of 50 per cent. alcohol injected into the vein of a small dog only produced a slight and transient weakness of the ventricle, which recovered itself entirely within three minutes. The strength of the auricular contraction was at first profoundly affected by this quantity, but this rapidly passed off, although no such complete recovery followed as in the ventricle.

Of all the drugs examined, then, the digitalis series and caffeine alone were found to increase the efficiency of the heart, and would be entitled to rank as cardiac stimulants. Caffeine differs from digitalis, however, in its increasing the number and not the strength of the contractions, and would therefore seem to stimulate the rhythm-giving mechanism rather than the auricle and ventricle proper. Digitalis, on the other hand, acts primarily on the strength of the contractions, and only produces noticeable acceleration when administered in poisonous doses. It would therefore seem to act chiefly on those parts of the heart which are endowed more largely with contractile power than with automatic. Caffeine can in no sense be considered a substitute for digitalis, but may have a special sphere of usefulness in cases in which acceleration alone is desired. To induce any increase in the rhythm considerable quantities of the drug would seem to be necessary from our experiments. The essential feature of the digitalis action in therapeutics does not seem to be the inhibitory stimulation and the slowing of the heart, for if this were the case veratrine and aconitine would give equally good results. Its beneficial effects are rather due to the changes which it produces in the heart muscle, and it is to be desired that some drug possessed of this property and devoid of its action on the inhibitory centre were available. The different members of the series vary somewhat in this respect, digitoxin and erythrophlein acting more strongly on the vagus centre and relatively less on the heart muscle than strophanthin.

From our experiments with the digitalis series, the further deduction may be made that the therapeutic effects of these drugs cannot be estimated by the slowness of the pulse. The muscular action may be induced without any marked alteration of the rate of the heart, if from any cause the inhibitory apparatus is weakened, or if one of the series which has but little action on that apparatus has been administered. Much less weight should therefore be laid on the rate of the pulse than on its other characters and on the general symptoms in digitalis treatment. In cases where slowing of the pulse is desired without further alteration, aconite and veratrine would seem to be indicated rather than digitalis. Strychnine and nitroglycerine owe their use in disorders of the circulation not to any changes produced by them directly in the heart, but to their vascular effects. Strychnine increases the resistance to the contraction of the heart by narrowing the calibre of the arterioles through the vasoconstrictor centre; while nitroglycerine dilates the vessels through acting on their coats, and therefore lessens the resistance against which the heart has to work. Both of these may therefore be of value in certain conditions of the circulation; and nitroglycerine would seem to be indicated where the contraction of the vessels induced by digitalis has to be avoided.

Any beneficial effects produced in the heart by alcohol or ether must be attributed to their local irritating properties which may increase the activity of the medullary centres reflexly, or to their general action on the central nervous system and the tissues.—*British Medical Journal*, April 23.

THE PECULIAR SYMPTOMS OF THE CARBON GROUP;
CARBO ANIMALIS AND VEGETABILIS. GRAPHITES,
MUREX PURPUREA AND SEPIA.*

By L. C. MCELWEE, M. D., ST. LOUIS, MO.

When the Chairman of this bureau gave me a list of possible subjects for a paper for the Bureau of Materia Medica, I saw that our distinguished confrère Dr. Monroe had undertaken a comparison of the various remedies of this Carbon group, and as his and my methods of studying materia medica are very much the same, I thought it very desirable that a study of the peculiarities of these same remedies be made at the same time, because Hahnemann in paragraph 153 of the *Organon* says that "This search for a Homœopathic specific remedy, consists in the *comparison* of the totality of the symptoms of our tested drugs, among which a morbid potency is to be found corresponding in similitude with the disease to be cured. In making this comparison the more *prominent, uncommon and peculiar* (characteristic) features of the case are especially, and almost exclusively considered and noted; for *these in particular should bear the closest similitude to the symptoms of the desired medicine*, if that is to accomplish the cure.

The more general and indefinite symptoms, such as want of appetite, headache, weakness, restlessness, distress, etc., unless more clearly defined, deserve but little notice on account of their vagueness, and also because generalities of this kind are common to every disease, and almost to every drug."

Now, ladies and gentlemen, there are two propositions involved in the application of this paragraph. One is to be able to know what is prominent, uncommon and peculiar, and the other is to understand what is general and indefinite. This can only come from observation, probably personal, and after all is a question of judgment, so that the symptoms that one may call peculiar might possibly be thought to be common-place and indefinite to another. I believe that this is largely the case with all beginners, and years of practice are required to be able to recognize the peculiarities of the most of one's cases at first sight.

Therefore, the symptoms to which I call attention in this connection may not be considered the peculiarities of either of the drugs named by some one else, thus creating the possibility of healthful discussion, and then the goal of all medical papers is reached.

Beginning with the Carboes, we find that they reduce the vital forces to a minimum. This in itself might be considered peculiar in that they do not exhilarate the vital action instead, but that peculiarity would not be of much if any avail in aiding us in selecting a similar remedy.

Some one might say, "Well, the best way to determine *that* would be to compare the drugs closely and find the symptoms of each that none of the others *have*, and you have it in a 'nut-shell.'" This has been largely done, but brings up the question, "Does the study of materia medica by the chart method mean too much elimination?" Judgment, the result of year's experience, will alone decide.

The two Carboes have so much in common that it is unprofitable as a rule to consider other than the *peculiar* symptoms of the first one, or in other words those that are not found in the pathogenesis of Carbo vegetabilis. Dunham summed up the difference as follows: Carbo animalis has far-sightedness instead of near-sightedness, there is a copper-colored rash that is scaly on the face of the Carbo animalis patient that Carbo vegetabilis has not, but most characteristic of this remedy seems to be glandular

* Southern Homœopathic Medical Association, 1897.

enlargements which are tender to touch, having a striking similarity to scirrhus. Now while the Carboes reduce the vitality and weaken all its functions, particularly the circulation, producing a cyanotic tendency or fully developed state of it, there is the peculiarity about it that the patient so affected is cold objectively and subjectively. You know Pulsatilla and Gelsemium have sluggish capillary circulation, and the skin gets livid, and bluish, but they do not complain of being cold. These remedies, then, might be considered peculiar in that they are cold. Their discharges are acrid and burning. Now fancy a cold patient with a burning (hot) discharge and consider whether there is anything uncommon about the coincidence. Indifference is a peculiarity of the whole group, but takes different forms and phases. Carbo vegetabilis is indifferent *merely*, Carbo animalis is indifferent but wishes to be alone, with peevishness like Bryonia and Gelsemium. Murex is indifferent with repugnance to conversation, with deep sadness and confused ideas, while Sepia gives them all one better and is not merely indifferent, but is so to every thing that was once dear to her. So much so is this the case, that her indifference amounts to an absolute selfishness, to gratify which she leaves all that is dear to her and life and wanders away to a secluded place to be alone, her despondent ideas become her melancholy pleasure and misery her chaperone. Graphites is so sad and despondent that she *must* weep, and all her thoughts are upon death. Music makes her weep. She is usually very fat.

It may be that the Sepia patient is so weak that it is too much of an effort to think, in which case none of the Carboes compete.

The Carbo vegetabilis patient complains that the head is "as heavy as lead," and if this symptom does not accompany the declaration that there is a dull headache in the occiput, violent pressive pain in the lower portion of occiput, there will have to be some other Carbo vegetabilis symptoms to distinguish between it and Sepia. The Murex patient with a pain in the back of the head bends the head backwards or presses the right side with the left hand. The head of Graphites feels "numb and pithy," an indication that would seem to call for this remedy in many. While there is not much aching about the patient's head, there is much scabbiness so that this might be regarded as the "scrub" of the group.

Of this group the Carboes have what is called in race parlance, a "Lead-pipe citch" on flatulence. This may or may not be accompanied by burning, and if discharged upwards or downwards affords much relief.

Murex or Sepia are very similar in the sinking of the stomach, which seems to be gone, or the "all gone" feeling at the pit of the stomach which Josh Billings said he experienced when he made vain attempts to propose to his best girl. Sepia, Graphites and Murex are almost entirely free from flatulence, but in both Sepia and Graphites that emptiness and gone feeling is relieved by eating, while Graphites alone of this group has an aversion and a disgust for sweet things.

The abdomen of the Carboes is not peculiar in any respect, while that of Sepia on account of its extreme relaxation is very pendulous, especially in mothers, and has many brown spots upon it.

The stool of Graphites when it is uncommon has no rival among this group. Stool knotty, being united by mucous threads, or the third stool covered with mucus. The Murex patient has discharge of blood from the vulva during defecation, like Sepia, while we only hear from the Carboes at this point. Sepia has feeling of ball in anus not relieved by stool.

The first urinary symptom worthy special notice is in Graphites in which the urine becomes turbid after voiding and deposits a white sediment. Murex deposits this same white sediment from an exceedingly watery urine, sp. gr. 1.002, and which has the odor of Valerian, while Sepia

deposits a variegated sediment with mucus, which adheres to the vessel as if burned in, yielding only to sapoline or scouring, or brick-dust mixed with "elbow-grease." The pathologist would name this condition lithiasis and prescribe Londonderry or Lithia waters to neutralize the condition.

The male sexual symptoms of the carboniferous group are quite variable. In *Carbo animalis* there is seemingly a progressive atrophy of the testes with mental and bodily exhaustion after emissions. Buboës form mostly on the left side, and present terrible ulcers after they are lanced or break down, with callous edges, and secrete an offensive ichor. The *Carbo vegetabilis* male sexuality is suppressed almost entirely, or should there be a coitus, it is followed by roaring in the head. Graphites on the other hand, is robust and full of sexual erethism, which sometimes becomes almost uncontrollable. There is itching or perspiration, or moist eruption on scrotum often. The pathological discharges are all gluey and sticky. Murex needs further proving on the male, as no record of any effect it may have in this sphere can be found. Sepia's sexual desire is increased, and after coition or emissions, there is weakness (general), in the knees, and burning urethra, and heavy feeling in occiput with despondency.

In the female sexual sphere the greatest peculiarities are noted. Nothing of much note occurs, however, until we get to Graphites when an intolerable itching before menstruation and a *gushing* leucorrhœa, day or night, is noticed. Murex is so excitable sexually that the slightest contact of the parts creates an excessive desire for an embrace. The patient has a distinct feeling or consciousness of a womb (like Helonias). The cervix is sore and ulcerated, and there is a discharge of greenish, blood-streaked leucorrhœa. At the beginning of the study we found a crossed action of the head and hands in this remedy and now we run across it again in this form: "Acute pain in r. side of uterus which crossed entire body and extended upwards to l. breast." In Sepia, the most prominent symptom in this connection is a sensation as if everything would be pressed out of vagina if she did not cross her limbs to prevent it. (If she did not press with her hands, *Lilium tigrinum*.) *Carbo vegetabilis* is suitable for old people or person suffering from loss of animal fluid, (China and Sepia), and in persons recovering from an acute disease.

Carbo animalis is particularly indicated in involvement of the glands anywhere in the body, associated with the peculiar debility and lowered vitality, of the carbons. Graphites is a scabby, eruptive remedy, the eruption being moist and sticky. The skin cracks and cracks, particularly the ends of the fingers, (like Petroleum), and the finger nails thicken and crack. The tendency to obesity is very great. Conrad Wesselhœft has said: "What *Pulsatilla* is to puberty, Graphites is to the climacteric."

Murex is satisfied to quit with a sensation as of the creeping of a snake over the entire region of the short ribs.

Sepia gives you a cold hand to shake and complains of hot feet or *vice versa*, and complains of tettery eruptions or ringworms, and awakens out of a sound sleep thinking she has been called.—*American Medical Monthly*, April 1898.

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THE DOCTRINE OF SIGNATURES AND THE LAW
OF SIMILARS.

UNDER the above title the learned editor of the *Homeopathic World* read a paper at the last Annual Congress of British Homœopathic Physicians, held in London on the 3rd June. The views and opinions advanced in the paper were startling for the present time, so startling indeed that with one exception all the members, while admitting that the paper was interesting, expressed their unqualified dissent from those views and opinions.

Dr. Dudgeon, the nestor of British homœopathy, who opened the discussion on the paper, called it an admirable paper, but thought the doctrine of signatures had been a great failure of which he gave several instances. It could form no basis whereby to judge of the action of remedies, the only certain and reliable sources of the materia medica, and guides to the selection of the remedy, being provings and clinical experience.

Dr. Proctor had listened to the paper with great pleasure but could not consider it advanced medicine. A French author had developed the subject more largely than even Dr. Clarke had done. They had had the doctrine of signatures for hundreds of years, but he thought that even Dr. Clarke would not pin his

faith in it unless its indications were verified by provings. The lower animals, he believed, were guided by it in their choice of food and drugs, and he would limit its use to them, as being more utilizable by their wonderful instinct than by man's reason.

Dr. Dyce Brown was extremely interested in the paper, but did not think that Dr. Clarke really intended the doctrine to be used as a method of choosing medicines. "Their profession," he said, "had its gloomy and grim side, and they were all better for having a veil of poetry and romance thrown over it—especially during such a meeting as that—they were glad to get out of the more serious and sober rut of many of the papers. It was sometimes an interesting thing, after having discovered the uses of remedies by Hahneman's provings on the healthy individual, that they should find that many of those provings do correspond with the old idea of the doctrine of signatures. It was an interesting, romantic, and poetic way of looking at the matter, and he considered it delightful to have it so brought before them, and it threw a curious side-light on homœopathy."

Dr. Percy Wilde "looked at this doctrine as an evil one, and as being one which misled men to use drugs wrongly, and to discard good remedies, and therefore he would be sorry if any pressure was brought to associate the doctrine of signatures with the doctrine of similars. He was, none the less, much interested in Dr. Clark's paper."

Drs. Goldsborough and Madden did not know whether to take Dr. Clarke seriously in the matter. According to Dr. Goldsborough, "the doctrine of signatures was a relic of their mental childhood," and "he doubted if it was a good thing to enter into an appreciation of a child-like doctrine." According to Dr. Madden, "surely it was coming down two or three steps to adopt a method of choosing drugs so manifestly uncertain, and only right in a few cases, instead of relying on the absolute certainty of provings. To be of any real use a method of selection should be universal, but neither Dr. Clarke nor any one else could contend that the resemblances to discharges or to organs were in any way reliable as indication of the means to use them as a remedy. It would lead them to use a cauliflower to cure warts or epitheliomatous tumors!"

Dr. Murray Moore, while he spoke highly of Dr. Clarke for having done good service to homœopathy by making provings himself, and while he would ask his colleagues as progressive homœopaths to welcome any practical hints ascertained of actual plants not at present in our *materia medica*, could not consider the doctrine of signatures worthy of the name of a "doctrine," but only as a bundle of old traditions which their clever and ingenious friend had revived for the purpose of discussion only. When they were asked to prescribe *hydrangea* in diabetes because according to Dr. Cooper it was one of the thirstiest plants in the world, and *ledum palustre* as a traumatic because it had spear-shaped leaves, they were landed into strange and superstitious notions which could not possibly be used as the basis of drug selection. As well might paralysis agitans be treated by tincture of the aspen willow, and neurasthenia by that of the sensitive plant.

Dr. Cooper, whose open letter to Dr. Clarke in support of the doctrine of signatures was circulated to the members, said that the matter under discussion were better argued out in the pages of our journals than in meetings. But as it had been brought forward he would remark that we need not go back to the old doctrine but had only to consider how far it could be utilized. It is true that provings gave them positive knowledge of drugs, but there were many difficulties in the way. They had accumulated such an enormous number of symptoms, that it has become difficult to collect them and utilize them in disease. Again, it was difficult to find healthy persons to make provings on. He had obtained symptoms of medicines given to deaf persons, which now a days we were too scientific to accept, but which he had used successfully in treating disease. They must look out for every means of facilitating prescription for disease, and the question was could they get help from signatures? He believed they could. The matter could be easily ridiculed and set aside, but when they came to deal with it practically they found many phases in connection with plant-life helping them to valuable indications in relation to disease. "He illustrated his meaning by *Calendula*. It was suited to persons who had aggravation from damp. This he could not understand until he found that the flower closed when there was gloom, as a cloud passing over. This was most noticed

from 2 a. m. to 3 p. m., and here he obtained the times of aggravation. He had cured many cases of spinal irritation on this indication of the remedy."

Dr. Pritchard thought the subject was extremely interesting. He instanced *Hamamelis* and *Millefolium* as supporting the doctrine, being used as styptics and having a blood-red color. The doctrine would be more useful in choosing materials for provings than remedies for disease. "It was provings they wanted. They could not get on with the present provings only. He never saw any provings from this hospital (the London Homœopathic Hospital). The only person who gave them provings was Dr. Clarke. We want provings of new drugs, and old provings pushed on to a greater extent. He did not mean to detract from old provings, nor depart from the totality of the symptoms, but thought the experiments ought to be pushed further—for instance, a swollen joint produced as well as pains; albumin and casts in the urine as well as pain in the back; a rise of temperature as well as headache, &c.; sugar as well as thirstiness, &c. He did not in the least undervalue the surgery of the hospital, which he was proud of; but thought that we look to the medical side to lead the world and ultimately to give surgery the second place, and it will do this by closely following the doctrines of our great master; and if it does this, it need not be afraid that any fads of the old school will produce better results. And this is more apparent in that any good results that the old school may boast of are produced by approximation to our methods. Modern methods only make the truth of our guiding law more and more manifest."

According to Dr. Nankivell the doctrine was a relic of mediæval medicine, and however interesting it could not possibly be of any assistance in practice, as it has never produced a single curative remedy. Dr. Clarke's paper has given them a pleasant morning but he thought they would not be very desirous of having it up again. Dr. Hayward confessed "he was very fond of amusement sometimes, but he did not think that Congress was the place for it, and if in future they did without such amusement it would be much to the credit of the congress."

The most fatal objection to the doctrine advanced at the meeting, was by the President who, in calling Dr. Clarke to reply, said by

way of suggestion, "that if any one thing was taken into that room, and all the members were asked to give an idea of what it resembled, no two would say the same unless it was by previous collusion."

Dr. Clarke, in reply, thanked the members for the kind way in which they had received his paper. He assured Drs. Goldsbrough and Madden that he was never more serious in his life than when he wrote the paper. He avowed that when several months ago he was asked by Dr. Dyce Brown to write a paper for the Congress he just thought for half a minute to see if there was any subject he could take that would "make their flesh creep," and within thirty seconds he had one and gave the promise. He assured the meeting he never wrote a paper unless he had something to say and which he believed to be truth. He adhered to all he had said that morning. He was fully aware that the doctrine he had advocated was a crude affair, but because they had more advanced methods that was no reason why there should not be some truth in it and why they should not bring to bear their advanced methods in exploiting the doctrine for what it is worth. He thought one reason why the doctrine had fallen into discredit was because before Hahnemann no one knew how small a quantity of medicine was enough for therapeutic purposes, and therefore even when they got the right medicine, by giving too much of it they spoiled the cases. He still believed that homœopathy would be the means of rehabilitating the doctrine as there was a great deal of use to be made out of it if rightly understood.

Dr. Clarke was thus not moved by the hostile though courteous criticism to which he was subjected, which he had not only anticipated, but which, we may say, he had courted by the very choice of his subject. He reaffirmed all that he had advanced in his paper—his belief in the doctrine of signatures and his belief that it is destined to be developed and re-habilitated by homœopathy. Dr. Cooper was right in saying that the proper discussion of the subject which goes so much against our preconceived ideas, could not be properly carried on at a meeting where strong feeling was likely to warp the judgment. It should be carried on in the journals where we could ponder over the articles written about it for a longer time than could be allowed at a

meeting. Towards this end we beg to offer a few remarks of our own on the subject, which had been well-nigh forgotten, and which Dr. Clarke has thought it his duty to revive.

The gist of Dr. Clarke's paper is contained in its opening paragraph, which runs thus: "While engaged in the study of the remedies comprised in the homœopathic materia medica, more especially of those belonging to the vegetable kingdom, one cannot fail to be struck with the correspondence often observable between outward peculiarities of flower or form in the drug and the organ or malady for which it has been found remedial. It would almost seem that it is to be the lot of homœopathy to rehabilitate the ancient doctrine of signatures, developed and glorified by Paracelsus, and possibly utilised by Hahnemann himself and the older homœopaths for suggestions as to the properties of drugs, the outlines of which were filled out by provings and clinical observations."

Dr. Clarke is perfectly right when he says "that there is sometimes more *hidden* likeness in *superficial* resemblances than might at the first blush be supposed," and that, "if we had the vision, we should observe differential characteristics in every microscopic bit of every plant, but the unmistakable features are oftener found in the blossom or fruit." He is equally right when he happily carries the analogy to disease: "it is in the symptoms—the blossom of disease, *exanthem*—(as our allopathic friends are beginning to discover) that the sigil or signature of the malady is most in evidence." He fully admits that "it is Hahnemann's great glory to have demonstrated that the best drug signatures are to be discovered in the out-blossoming symptoms experienced by 'the drug prover. But that does not say," he goes on, "that drug-provings abrogate the older doctrine of signatures." On the contrary he maintains "that in many instances our provings show that there is an amount of truth in it unsuspected by 'the hyper-sophisticated intellect of an age that boasts of its knowingness."

He believes that, habitually taught by modern science to dive for realities below the appearances of things, by our very efforts to do so "we miss much which is all the while lying on the surface. But there is no reason," he says, "why we should not be aware of this habit, and by adjusting our mental vision look at

nature with the wide-open eyes of childhood as well as with the keen and narrow gaze of the scientist." If we do this, and if we really believe in a Universe of which we so glibly talk, "we should recognise that everything in the universe bears relation to every thing else, and we should expect to find the correspondence cropping out in many directions, the connecting links of which we are quite unable to trace."

No one, even from the point of view of the highest science, can find fault with the above sentiments in the abstract. Modern science has taught us to believe in a universe in which the most intimate relationships pervade throughout its infinitude, linking together in indissoluble ties not only the near but the remotest objects. Modern science, by its revelations of correlation of forces and conservation of energy, has made all this glib talk about the universe a mere truism. Not the least doubt is now entertained about the existence of these relationships, even of the relationships of external forms or features with internal structure and function. We know that to a certain extent it is possible to read the mental characteristics of an individual from his external features or physiognomy. The question is, is it possible from the external features or physiognomy of bodies, mineral, vegetable, or animal, to discover or even to guess their pathogenetic and therapeutic properties? The question further is, how far we are competent from these external appearances alone to discover the correspondences, if we restrain the severe discipline of science, and give the widest scope to the wide-open eyes of childhood.

Dr. Clarke has cited *Cistus Canadensis* as offering an instance of the truth of the doctrine of signatures. Here the signature is not the form, color, or odor of flower, fruit, or leaf; it is the singular peculiarity "that in the months of November and December these plants send out near the roots broad, thin, curved ice-crystals, about an inch in breadth, which wilt in the day and are renewed in the morning." Dr. Clarke confesses that he cannot tell "what possible connection can there be between the physical appearances or peculiarities of a plant and the effect on the human organism of the same plant after it has been macerated with alcohol or boiled down into a decoction" "All that I can say is that in the provings of *Cistus* a sensation of coldness is one

of the commonest symptoms met with," of which he gives the following as a selection : " Forehead cold, and sensation of coolness inside forehead, in a very warm room ; cold feeling in nose ; sensation of coldness of tongue, larynx, and trachea ; saliva is cool ; breath feels cold ; empty and cool eructations ; cool feeling in stomach before and after eating ; cold feeling in whole abdomen." It is true that sensations of coldness are common to scores of medicines, but such an association of cold sensations is peculiar only to *Cistus*, and "I cannot help feeling," says he, "that there is some occult connection between the electric properties of the plant which favour the production of ice about it, and the chilling effect of the drug on the body when taken. At any rate, I put down in my private materia medica 'unusual sensations of coldness' as a keynote for the use of *Cistus* ; and curiously enough, I did not have long to wait before an opportunity arose for testing it. A patient came to me about that time complaining of coldness of the whole left side of the body, and she feared that paralysis was coming on. I prescribed *Cistus*, and there was soon an end to the one-sided coldness, and the fear of paralysis along with it."

We do not think it is any electric property of the plant, but it is the great radiating property of the fissured bark near the root,* which favors the production of ice about it. But whatever the explanation, the fact of formation of ice along the fissures in the bark is undoubted. The question is, whether this is sufficient signature for the medicinal use to which the plant has been put. Are we sure there are not other plants which have the same peculiarity ? If there are, as we believe there must be, shall we be justified in using them for the same purposes ? Many other bodies than plants which have great radiating properties would have the same faculty of congealing the moisture of the atmosphere around them into ice in winter. Shall we be right from this signature alone to use them in conditions for which, guided by provings, we use *Cistus* ?

In support of the doctrine, Dr. Clarke further instances *Thlaspi bursa pastoris* whose seed-vessel is the very counterfeit of a virgin uterus and which, though as yet unproved, has been recognized by

* "In early winter the bark near the root fissures, and spicules of ice project from the rents ; this fact gave the plant its vulgarisms, Frost-wort, etc."—MILLSPAUGH: *American Medicinal Plants.*

almost all homœopaths as an uterine remedy of the very first rank; *Echinacea angustifolia* whose root turns black on exposure and which has been used in diphtheria and low typhoid conditions where a black tongue exists; *Fragaria vesca* from which excellent results have been recorded by Dr. Burnett in conditions where the straw-berry tongue is a prominent feature; *Elaterium*, the manner of bursting of whose seed-vessel, has led to its successful use in diarrhœa in which the discharges squirt out of the anus; *Squilla maritima* which exudes a juice the very counterpart of mucus and which, from this circumstance probably, has been used as an expectorant. With reference to the instances here cited we have to remark that having provings of *Elaterium* and *Squilla* we can use the one in those cases of diarrhœa and the other in those cases of bronchorrhœa or even of phthisis in which we find them to have analogous symptoms; we do not use them indifferently in all cases. Are the signatures of *Thlaspi*, of *Echinacea*, and of *Fragaria* sufficiently differentiating to enable us to use them in appropriate cases? Or are we to use them, and would we be justified to use them, in all cases?

Dr. Clarke does not confine the meaning of signatures to outward appearances only. He extends it to the habitat of plants which, he says, has often suggested their medicinal properties. In common with some observant physicians, Alfonso Teste* one of them, he believes that remedies for diseases peculiar to certain localities are to be found in those localities. And though the subject has not been thoroughly worked out, illustrative instances are not difficult to find out, such as we have in the notable ague remedy, *Mengyanthes*, which grows in fens; in the anti-rheumatic *Salicin* derived from the willow which grows in damp places; and in the *Lemna minor*, a valuable remedy in catarrh, and of which the leading indication is 'aggravation from damp,' and which flourishes in ponds. We do not question the soundness of the general principle here laid down; but how are we to make a

* Dr. Teste in the Introduction to his *Materia Medica* says: "The more we investigate the general relations of our reputed drugs with the diseases to which man is subject, the more we are struck by the curious circumstance that it is precisely in the districts where certain pathological affections prevail, we meet, by some admirable arrangement of the Creator, an abundance of the substances capable of curing them." He cites the examples of *bitter-sweet* which prefers damp places and is successful in diseases from damp; of *wolf's bane* which grows on mountain-tops and is successfully used in inflammatory fevers and acute phlegmasiæ to which mountain people are subject; of *nux vomica* which grows in the East Indies and is useful in dysentery and bilious affections which prevail in those countries; of *wild pansy*, so efficacious in scrofula, which grows in the north-east of Europe where the disease is indigenous; of *Copaiva*, which is abundant in Poland and is the only remedy which has cured plica polonica; of *Cedron* which is an admirable antidote against the crotales and the coral snake and grows almost exclusively in regions inhabited by those reptiles.

selection from the wilderness of plants flourishing in a locality? Every one of the plants peculiar to a district or a country cannot be a remedy for the disease or diseases peculiar to the district or the country. We must have the aid of provings to find out their pathogenetic and therapeutic virtues.

Hitherto the application of the rule "let likes be treated by likes" has been based upon the correspondence of drug-effects with disease-effects on the symptom plane. "But I do not see," says Dr. Clarke, "why we should not extend the meaning of the rule and include within the sphere of correspondence plant- or drug-appearances and organ- or disease-appearances. If we take this view of it, the doctrine of signatures may fairly be brought within the four walls of the homœopathic formula." But the doctrine is admittedly of limited application. All drugs cannot be brought within its sphere. Both Drs. Clarke and Cooper have confined it to plants. "We must bear in mind," says Dr. Cooper, "we are dealing only with plant-remedies. The doctrine of signatures has for us no application, or for purposes of argument must be considered as having none, to substances taken from the mineral kingdom." Dr. Clarke explicitly says, "I do not claim for all drugs the possession of signatures. They may all have them for anything that I know, but we have not yet learned to read the signs." But shall we ever learn to read them in the case of products from the mineral or from the animal kingdom? Could the appearances of arsenic, of mercury, &c., and of the serpent venoms, of sepia, &c., ever enable the human mind to form the remotest guesses of their uses except from provings? We believe not.

Even as regards the vegetable kingdom, it is not the same signature that is relied upon in every case. It is sometimes the color, sometimes the form, sometimes the habits, sometimes the habitat, sometimes something quite different, that is looked upon as a signature. And, as Dr. Williams, the President of the meeting, said, each of these may strike different observers in a different manner. What if each observer were to suggest a use according to what he considers to be the true signature? Would we be justified in basing our treatment of cases on these random suggestions?

It is satisfactory to learn that neither Dr. Clarke nor Dr. Cooper would wish signatures to supersede provings. "Nor do I contend," says Dr. Clarke, "that the signs, when found, are of superior value to provings or to clinical observations. What I do maintain is that in them we may find pointers of great value. They may be used to supplement provings, or to confirm them; and to suggest uses when provings do not exist." In the same strain Dr. Cooper says, "when I advocated a consideration of the color,

form, habitat, and habits of plants, as being a possible aid to the acquisition of the indicated remedy, it was not at all with a view to the permanent substitution of such outside helps for the more dependable symptomatic knowledge that should follow."

Dr. Cooper has, we think, correctly defined the relative positions of Signatures and Provings. With reference to the substitution of *Bryonia Dioica* for the German *Alba* which only was proved by Hahnemann, he very justly remarks, "obviously there can be no possible justification for supposing that the symptoms of the one plant are the same as those of the other, except upon the principle of signatures, nor can our practical experience with the *Dioica* variety have been instigated by the morphological resemblance between the two. Practically, we have discarded the symptomatology of *Bryonia Alba*, and have allowed ourselves to be guided by the signatures of *Bryonia Dioica*." With reference to the possible identity of their constituents he says, "this would be feasible if we were dealing with chemical constituents alone, but there is not the slightest reason for supposing that plants that vary morphologically are identical in their vital properties. Similar they may be, hence the necessity of Signatures; identical they cannot be, hence the necessity of Provings." Here we have the true differentiation between the functions of Signatures and of Provings, about which there cannot be, and ought not to be, any difference of opinion.

The position seems to us to be this. Signatures can only serve as outside helps (Cooper), and as such they may be more useful in choosing materials for provings than remedies for disease (Pritchard). A few of the drugs thus proved may and probably will come within the four walls of the homœopathic formula; and homœopathy will rehabilitate the doctrine so far and no further. With this prospective however slender gain to therapeutics we agree with Dr. Clarke in not seeing any reason why with our advanced methods we should not exploit the doctrine for what it is worth. We cannot go with him when in his ardor for his new love he supposed Hahnemann and the older homœopaths had possibly utilised it for suggestions as to therapeutic properties of drugs, and that the failures of the doctrine in the past are ascribable to non-discovery of the infinitesimal dose. We do not think it possible that the man, who condemned the doctrine in such strong language as he has done whenever opportunity offered, should have availed himself of it even as suggestions for provings; and besides, with the exception of a few drugs, such as *Silicea*, *Sepia*, &c., of which the signatures could not suggest any possible use, Hahnemann took up for provings old drugs, drugs that were already being used or, as he thought, being abused for want of a knowledge of their pure

effects. And we believe that the failures of the doctrine are more to be ascribed to its vagueness and want of precision in some cases and its actual falseness and unreliability in most, than to the use of the drugs in massive doses.

We nevertheless think that Dr. Clarke has done well to have drawn attention to a doctrine which did some, perhaps considerable, service to medicine in its nebular stage, and which, as suggestive of provings, may be of real service to it still in its present settled and advanced stage. But whether this be so or not, we fail to see the justification for the acrimonious criticism to which he has been subjected by some of our British colleagues. For men who are still the victims of relentless persecution for having emerged from ignorance and prejudice and bigotry, to bind themselves and others to a particular line of thought and inquiry, is to take the last plunge into the slough of ignorance and prejudice and bigotry they have emerged from. We are in general accord with Dr. Clarke in the sentiments expressed in the concluding paragraph of his paper, and we have therefore great pleasure in reproducing it here in extenso :

"Before concluding I wish to enter a plea for a wider range in seeking indications for the employment of drugs. I don't think my worst enemy—if I have the honor to possess one—will accuse me of ever having manifested symptoms of being a wobbler in the faith. I have sought to practise it to the extent of my knowledge and ability, fully alive to the fact that homœopathy is much too big to be completely mastered by any one man in a life-time. On the other hand, I am not aware that my membership of the homœopathic confraternity, or of the B.H.S., ties me down to prescribe only on symptoms that have actually been produced in provings on the healthy. That provings are the most fertile source of trustworthy indications I fully believe; but I do not think when Hahnemann penned his "Essay on a New Principle for Discovering the Curative Powers of Drugs," he had any idea that the curative powers discovered in other ways were to be discarded; and if he did mean that, I should say he had made a mistake. Provings are the foundation and superstructure of our art, but there are many other elements that can usefully be employed in the complete equipment of the edifice, and among them the ancient doctrine of signatures should occupy, as I contend, a place of no small importance."

The following extract from "Our Creed" in the very first number of this Journal, written thirty-one years ago, shows that we gave expression very nearly to the same sentiments: "The physician, if he is aware of the solemn responsibility of his calling, and at the same time sensible of his imperfection in the application of what he thinks to be the absolute law of healing,

is bound to avail himself of the accumulated clinical experience of the world, which is too valuable a treasure to be thrown over board. Until the time of the immortal Hahnemann, we must remember that chance, and not science, was the discoverer of the most potent drugs which we daily use, and with success. However high enthroned, therefore, on science we may be, we must not disdain to profit by whatever chance or an over-ruling providence offers to us."

REVIEW.

La Grippe. Par L. Galliard, Médecin de l'Hôpital Saint-Antoine.

J.-B. Baillière et Fils. Paris, 1898.

La Diphtérie. Nouvelles Recherches Bactériologiques et Cliniques, Prophylaxie et Traitement. Par H. Barbier, Médecin des

Hopitaux, et G. Ulmann, Interne des Hopitaux. J.-B. Baillière et Fils. Paris, 1898.

THESE elegant little volumes are the two first of the series which, under the name of *Actualités Médicales*, Messrs. J.-B. Baillière et Fils are issuing. The object of the publication, they tell us in the Prospectus, is to diffuse a knowledge of the daily progress of the Medical Sciences in France and foreign countries, and for this purpose the actualities or established facts are condensed into small, portable volumes, of moderate price, and illustrated, whenever the subject permits, with elegant figures. Each new subject, we are assured, will be treated by the person who has made it his special study or by an author whose name is authority. The subjects will be treated with especial reference to its practical side, so that the student for his examination, the candidate for his competition, and the practitioner for the daily exercise of his profession, will find in the treatises whatever it is indispensable to know regarding the most recent advances in medicine.

The volumes under notice have, we are glad to testify, very well fulfilled the promise given by the publishers.

Dr. Galliard has treated *la Grippe* or Influenza in a thorough manner, giving the latest facts brought to light regarding the disease. After exposing the erroneous belief of Broussais that *la Grippe* was an invention of persons with not a half-penny in their pockets and of physicians without clients, who, having nothing better to do, created this hobgoblin,—the author treats the subject in seven sections. In the first he describes the epidemic of 1889-90; in the second he gives the bacteriology of the disease; in the third he gives the symptoms, dividing the disease into five stages of incubation, of invasion, of full development, of decline, and of convalescence; in the fourth he describes the

clinical modalities or forms of the disease; in the fifth he gives the complications, in the sixth the treatment, and in the seventh or last, the prophylaxis.

As regards bacteriology the author refers to the discovery by Pfeiffer of a bacillus which stains with the basic aniline dyes, better with Ziehl's liquid. The discovery was not slow to be accepted by Kitasato, Prühl, Klein, Netter, Borchardt, Weichselbaum, &c. But from the fact of the microbe being associated with other microbes and of the difficulty of its isolation, Dr. Galliard is not inclined to look upon it as the actual pathogenic bacillus of influenza. "At the present moment," says he playfully, "the marriage (association) of the microbes is proved. We have not yet the right to pronounce the divorce."

The symptomatology of the common, typical, form of the disease in all its stages is fully and clearly given. The modalities are classified under four chief forms, the common, the nervous, the gastro-intestinal, and the thoracic. The nervous forms are subdivided into three varieties, according as the cerebrum, the medulla oblongata, or the spinal cord is chiefly affected. Under gastro-intestinal forms are described four varieties according as there is predominance of symptoms of gastritis, of dysenteric, of choleric form, and typhoid enteritis. Under thoracic forms we have acute bronchitis, broncho-pneumonia, pneumonia, pulmonary congestion, and pleurisy. Under modalities Dr. Galliard has also treated Influenza in the aged, influenza developing or accompanied by acute and chronic maladies. The complications involve the nervous, the digestive, the respiratory, the circulatory, the urinary, and the genital systems, the nasal fossæ, the organs of hearing and of vision, the parotid gland, the thyroid body, and the articulations. Most of these complications, such as those of the nervous, the digestive, and the respiratory systems, go to form, in our opinion, the modalities which have been separately described, and might have been better omitted.

In the section on Treatment he first speaks of research in the direction of specific medication, and dismisses the antitoxine treatment as not being yet established. He speaks of Ammonium chloride which was extolled by Marotte in 1847 in broncho-pulmonary congestions and which Teissier has found to have bactericidal properties. Sulphate of Quinine is found to have the same bactericidal properties, and has been regarded by Teissier as a medicine which should have the preference of all in Influenza. Dr. Galliard goes so far as to say that, if prescribed early, Quinine will conjure away mild attacks, and if it fails to jugulate severe attacks, it will moderate their intensity and perhaps ward off the complications. The author gives the separate treatment of the various forms and complications of the disease.

Quinine is his remedy *par excellence* for moderating the fever and the pains, though he recommends the administration of Antipyrine, and failing with it, Phenacetin, for the same purposes. He reserves the use of cold lotions and cold baths for hyperpyrexia which resists the action of those remedies. For the school to which he belongs the treatment here recommended is unobjectionable. But from our point of view it is too heroic. Indeed, we go so far as to say that the modern antipyretics have counted as many victims in Influenza as blood-letting in olden days.

As regards prophylaxis our author has no faith in any method that has yet been adopted. Regional prophylaxis, that is, protection of large areas, he thinks, is quite impossible. Local prophylaxis has been the result of happy chance for closed establishments, for prisons, for English light-houses. Individual prophylaxis is less difficult to realize, but how to obtain it? He refers to Goldschmidt who has affirmed that immunity may be obtained by recent Jeunerian vaccination; to Mossé who pretends to have immunised rabbits by injections with sulphate of quinine into the veins; to Bruschettini who has vaccinated animals with the serum of other animals immunised by inoculation with the cultures of the Influenza-bacillus into the blood; to Cantani who is said to have obtained positive results in guinea-pigs with increasing doses of Pfeifferian cultures. But says he, knowing that we are all exposed to contract the disease every time it reigns epidemically and even several times during the course of the same epidemic, knowing that influenza itself does not confer protection against a second attack, how can we accept these experiments without scepticism?

We are glad to accord to the treatise on Diphtheria by Drs. Barbier and Ullmann, the same praise for thoroughness and being up to date that we did to the treatise on Influenza just noticed. The authors had the advantage of their long experience in the Hôpital Trousseau, the results of which they have embodied in this work. The work has been divided into three parts. In the first part they have given the bacteriology of the disease; in the second, its clinical aspects; in the third, its therapeutics. Each of these subjects has been enriched with new ideas and facts of great value and importance.

The bacteriology of the disease has been fully, we may say, exhaustively given. The authors, from their own researches, have been able to confirm the Klebs-Löffler bacillus as the true pathogenic bacillus of diphtheria. They have given the differential characters of this bacillus and of the other bacilli which are found associated with it. They have shown that the diphtheria bacilli do not confine themselves to the false membranes; they may invade

the economy and are found in the viscera. The action of these bacilli is modified by the entry into the field of septic microbes. The detection of their simple presence in culture tubes is not enough and of no value; it is necessary to be assured of their virulence, and of their pathogenic power, whether by experimentation or by the ascertainment in patients of symptoms which characterise their action.

As regards the clinical aspects of the disease, they have established a distinction between two types of the disease—pure and mixed. Each of these has signs and marks which are real and constant. In the pure type the false membranes are white, raised in shreds; the mucous membrane itself is normal, rather pale; there is little or no glandular affection; the skin is pale; the pulse rapid.

In the grave mixed type the face is puffed, swollen; the skin leaden colored; there are excoriations of the lips and around the nostrils; the mucous membranes are red, sanious, bleeding, and very much swollen; the false membranes flabby, pūrescent; the neck stiff (*proconsulaire*); discharges from the nose abundant.

Between these two extreme types, there are intermediate types, non-modified, with slight septic symptoms. In each case the throat is not the exact and faithful mirror of the gravity of the disease.

From the point of view of therapeutics and prophylaxis, the importance of the preceding distinction between the pure and the mixed types is seen in the fact that the anti-diphtheric serum, which is all powerful in the former, is inefficacious in the latter. These forms of the disease require anti-septic medication.

They very properly recommend that patients attacked with the mixed form of the disease should be isolated in the most rigorous manner.

The persistence of Lœffler's bacillus, after apparent recovery of the patients, is a source of permanent danger to the healthy, to guard against which prolonged isolation of the patient and disinfection of his secretions and clothing is absolutely necessary, even after the disappearance of the pathogenic germs.

If the forth-coming volumes of the *Actualités Médicales* series are as good as the ones we have noticed, in point of thoroughness and of research in their respective subjects up to date, then we may truly say that Messrs. J.-B. Baillière et Fils will have rendered a great service to the profession. We wish them success in their enterprise. We would recommend those of our readers who can read French to possess themselves of these volumes, each of which will not cost more than a rupee of Indian money.

EDITOR'S NOTES.

Effect of X Rays on Colors.

Sir William Crookes has shown that various gems and minerals glow with a beautiful tinted phosphorescence in the cathode rays of his vacuum tubes, and M. Leconteur and Mr. A. C. Cossor applied this fact to the examination of precious stones and minerals of uncertain constitution. A large number of gems of various kinds, shown under the rays, were quite altered in color by the phosphorescence. Four large Burmese rubies, for example, weighing twenty-two and a half carats, glowed a fiery red. Singalese rubies were easily told from Siamese by the phosphorescence. Diamonds became a light blue or green; moonstone gleamed like moonlight just after the rays were withdrawn from it; American dolomite was red; tungstate of calcium a turquoise blue; sea shells, a rich golden yellow and light blue, and so on. Questionable stones can thus be tested without injury to the gem. Moreover, the method is applicable to toxicology in the case of alkaloids, and will be useful in medical jurisprudence.—*Scientific American*, July 30, 1898.

Intestinal Obstruction by Round Worms.

The well-known inconvenience and even danger arising from the presence of round worms in the alimentary canal receive additional confirmation from a case which is graphically described in the *Annales de Médecine et de Chirurgie Infantiles* of Aug 1st, 1898. It is that of a child, aged nine years, who presented all the usual symptoms of intestinal obstruction with an area of dulness from 12 to 15 cm. in length, corresponding to an elongated swelling about the middle of the transverse colon. Laparotomy was performed and it was found that this swelling consisted of fecal matter and that the colon at the junction of its left third with the other two-thirds was actually "corked" (*sic*) by a mass of cord-like substance which proved to be an entangled knot of round worms. Massage of colon was successful in reducing the obstruction, the contents of which were pressed as far as possible towards the sigmoid flexure. The abdominal wound was then closed. The relief of symptoms was rapid and pronounced; on the third day, with the help of calomel and santonine, three round worms were passed by the anus and the child was well in a week.—*Lancet*, August 13, 1898.

The Death of Prince Bismarck.

The death of the real founder of the modern German Empire removes from the purview of this world the most prominent figure of the latter half of the present century. With general politics we are not concerned, and it is a happy coincidence that at the time of the death of him who wrought so sore a blow to France a congress should be sitting in Paris discussing the internationally important question of tuberculosis, a disease the real nature of which was first made clear by the researches of a German. Bismarck died in his eighty-fourth year after a life of the most unremitting toil in both mental and physical

fields, but his enormous store of vitality enabled him to undergo and recover from fatigue which would have broken down an ordinary man. He could always eat, drink and sleep and so was enabled to recuperate very quickly, a faculty he showed with that other great leader of men, Gladstone. Like so many great men, Bismarck lived too long for his own happiness and glory. He found Germany a collection of petty principalities and powers; he made it a mighty empire, with its foundations, according to the old mediæval rule, consolidated and laid in blood; but inasmuch as the building was greater than a mere bridge or dwelling-house, so was the sacrifice not merely that of a dog or even a human being but of thousands of men, millions of money and the tears of two nations. Of his methods we need say nothing here; suffice it to say they were successful. But as is inevitable when two strong wills clash and the one is the ruler and the other the subject, it is the subject who has to yield. Bismarck brought the German Emperor into being, and, like Frankenstein, his creation overcame him. There is no need to dwell upon this: let us only remember him as a master statesman, a man of unswerving will, a faithful and devoted servant to his country, who gave his whole life to forwarding her interests.—*Lancet*, August 6, 1898.

A Living Child Disinterred from an Ashpit.

A case presenting several interesting medico-legal features formed the subject of an inquest held by Mr. Birks, coroner for Holderness, Hull, on July 18th. From the report published in the *Eastern Morning News* it appears that the deceased was an unmarried woman, thirty-eight years of age, that she had for seven months been servant to a labourer whose wife was an invalid, and that he did not know she was pregnant. On July 16th she complained of lumbago, but declined to have medical attendance and did her work as usual. On July 17th (Sunday), at dawn, before sunrise—i.e., before 4 A.M.—the man heard her moving about downstairs, and after a few minutes he heard her come up again. He got up about ten minutes past eight, called out to her as he went downstairs, and she said she was a little better and would get up soon. About 11 A.M. he procured the assistance of a neighbour, a woman, to whom the deceased admitted that she had had a child and had buried it in the ashpit; she also said the child "belonged to nobody here," and became unconscious, dying before the arrival of the medical man. There was a great deal of blood about the room. Mr. Edward Harrison, assistant surgeon to the Hull Royal Infirmary, who arrived at the house after the death, found the baby buried in the ashpit covered with ashes and the emptyings of the privy to the depth of about 6 in. He was led to the spot by hearing it crying under the filth. The cord, about 18 in. of which was attached to the child, had been torn through. The child was discovered at 12.10 P.M., and it had probably been there since 3 A.M.—viz., about nine hours. According to the man's evidence it must have been there from 8 A.M., or at least four hours, but from what Mr. Harrison could learn the time was most probably nine hours. The inference was that the child was born before 4 A.M.,

that the deceased tore through the cord, carried the child downstairs, buried it, and returned to bed, and that hæmorrhage occurred subsequently from partial detachment of the placenta. The post-mortem examination showed very little blood in the body, the heart and great vessels being practically empty. The placenta was in the uterus, the great part of it being attached to, but easily separable from, the uterine wall; a portion of about the size of the palm of the hand was detached, from which the bleeding had evidently taken place. The perineum was rent as far as the anus. There was no evidence of previous pregnancy. There was a small scirrhus in the left breast. The child was in a vigorous condition on July 19th.—*Lancet*, July 30, 1898.

A Proving of Kreasotum from Olfaction.

The following communication from Mr. Alfred J. Pearce, the celebrated astrologer of England, Zadkiel the second, appears in the *Homeopathic World* for August 1898. The hours of the day, it will be observed, are somewhat irregularly noted.

Among some papers of my late father's, Dr. C. T. Pearce, I have found the following proving of *Kreasotum* in the handwriting of the late Dr. Henry Thomas, who was my father's assistant, in Northampton, in the year 1855.

"*Kreasotum*.—June 17, 1855. While calling to see Whitworth, observed a bottle of kreasotę and smelled of it twice. In an hour or two afterwards had—

"Pain, bruised aching—somewhat like that of *Glonoinę* but not of such a fine throbbing character—in and over the right external angular process of the frontal bone. At 5 p.m. noticed, while eating, a bruised, aching sensation in molars and bicuspidati of right side.

"June 18th. Toothache returned during meals; and after supper also similar pain in the left molar teeth. Ten p.m., pain in left ex-angular-process. Seven p.m., aching in right molars from crown to root, especially upper jaw. Toothache worse while drinking warm cocoa and while masticating bread, but better with cold water in mouth. The aching in right ex-angular process worse on pressure.

"June 19th. Had griping pain in the transverse colon at 7 a.m., while lying in bed, with great urging to stool all day. Six p.m., lying on couch, griping returned. One p.m. bleeding from right nostril (bright blood), slight, stopped with cold water. Eight p.m., slight griping above umbilicus, left side, while writing.

"June 21st. Tendency to toothache at 6 p.m., and for some days after, in right molars, which are principally sound—some have been plugged with gold. (Signed). "H. T.

"Northampton, July 16, 1855."

Dr. H. Thomas was then a spare, healthy, active, and sanguine young man; devoted to his profession, and keenly observant of the action of medicines. I have a vivid remembrance of him—I was then in my fifteenth year—and he frequently related to me his observations of the action of medicines. I retain the original notes as a memento of one for whom I have a great regard.

Hysteria in the Lower Animals.

Dr. H. Higier of Warsaw describes in the *Neurologisches Centralblatt* (No. 13, 1898) two instances of what he regards as hysteria occurring in the cat and the canary-bird respectively. The cat, which was nine months old, healthy and active, was one day deeply bitten in the back by a dog and immediately fell down paralysed. When Dr. Higier first saw it, five or six weeks after the injury, it walked only with its fore-paws, dragging its body and hind-paws. There was complete loss of sensation in the hind-paws and in the hinder third of the body, both sides of the abdomen and back of the animal being indifferent to deep punctures with a needle and to hot applications, but it always responded to gentle touching of the anterior half of the body. The tail was also paralysed, but there was no muscular atrophy of the hind limbs in comparison with the anterior part of the body, neither was there incontinence of urine or faeces, in which respect only did the symptoms differ from those of paraplegia intentionally induced by section of the spinal cord. Dr. Higier considered the lesion to be traumatic dorsal myelitis until one day the servant girl, being curious to see whether the cat would fall on all fours as cats usually do, threw it from the first-floor of the house on to the pavement. As a matter of fact, it alighted on all four feet, immediately ran away, and was, contrary to expectation, completely cured of its sensory-motor paraplegia which had lasted for more than two months. Dr. Higier based the diagnosis of hysteria on the sudden onset and equally sudden disappearance of the paralysis, together with the retention of control over the rectum and bladder. The mother of this cat had repeatedly during the last weeks of pregnancy suffered from general clonic convulsions without loss of consciousness (? chorea gravidarum). Dr. Higier's second case of hysteria showed itself in a canary-bird whose cage with the bird in it was pulled down from the wall by a cat, but Dr. Higier interposed before the cat seized it. The bird lay on the bottom of the cage stiff as if dead, but was revived by sprinkling with cold water, after which it was lively, took its food well, and showed no abnormality except that from having been a fine singer it became silent. After six weeks this condition of aphonia passed off quite unexpectedly, and the canary once more sang very well. Dr. Higier also refers to three cases mentioned by Gilles de la Tourette in which dogs showed hysterical symptoms.—*Lancet*, July 30, 1898.

Groundless Fear of Lightning.

A current news-item gives the result of an investigation carried out by Dr. G. Stanley Hall, president of Clark University, on the things that most excite fear in people. Of the 298 classes of objects of fear to which 1,707 persons confessed, thunder and lightning lead all the rest, although in certain localities, as, for instance, those subject to cyclones, etc., the fear of the latter predominates. It may be accepted as probably true that thunderstorms constitute the most pronounced source of fear with the majority of people, due, no doubt, to the always impressive and not infrequently overpowering nature of the phenomenon. But is there any justification in fact for this fear so far as fatal results are concerned?

We believe there is not, but, on the contrary, that many other causes which barely have a place in Dr. Hall's list are infinitely more entitled to the distinction as fear producers than lightning. As proof of this we may cite statistics of the United States Weather Bureau. These show that for the four years 1890-93 the deaths from lightning numbered 784, or an average of 196 a year. Again, H. F. Kretzer, of St. Louis found from the record of nearly 200 newspapers that for the five years 1883-88 there were 1,030 deaths caused by lightning, or an average of 206 a year. We doubt whether, of the number of deaths classed as "accidental" in the whole United States, any one group can show so small a number. In New York city alone over 200 people are drowned every year, while nearly 150 are burned or scalded to death, and close on to 500 persons meet their end by falls of one kind or another. Comparing the record of 200 lightning fatalities for the whole country with the above records for New York city, with its total of nearly 1,500 accidental deaths for every year, it will be seen how groundless is the popular fear of lightning. It is a survival, an inherited superstition.

But there is another point in connection with this matter which ought to be particularly comforting to city dwellers, albeit country dwellers may not be affected in like manner, and that is, that statistics show that the risk of lightning is five times greater in the country than in the city. The cause of this immunity of city dwellers is not far to seek. It is doubtless due to the predominance of metal roofs, the well grounded water pipes in houses, and probably as much as anything to the protective network of overhead electric wires of all kinds. The popular belief that a stroke of lightning is invariably fatal is also not borne out by facts. Indeed, one record specially devoted to this feature shows that of 212 persons struck, only 74 were killed. Taking it all in all, there seems to be no more groundless popular fear than that of lightning. Indeed, if one can go by statistics, the risk of meeting death by a horse kick in New York is over 50 per cent. greater than that of death by lightning.

Yet with all the weight of statistics against its deadliness, lightning will probably continue to scare people as heretofore. Perhaps, after all, there may be a more direct cause than the mere psychological one usually ascribed to it, and that is the fact that many people of nervous temperament are affected hours before the approach of a thunderstorm and thus rendered particularly powerless to stand the strain which more or less affects the most phlegmatic natures during a disturbance in the heavens.—*Scientific American*, July 30, 1898.

Thyroglandin—a New Preparation of Thyroid gland.

Dr. William MacLennan, late Assistant to the Chair of *Materia Medica* and Therapeutics, Glasgow University, thus speaks of this new preparation, in the *Brit. Med. Jour.* for July 9, 1898 :

The thyroid gland may be administered either in the raw state or dried at a gentle heat under the coagulating point of albumen. To either of these forms there are obvious objections, because animal sub-

stances foreign to the essential active principles are almost certain to be present, and bacteria of a dangerous kind may be introduced into the system of the patient.

The thyroid gland contains two important principles : one of these is an iodoglobulin, the larger constituent, and the other is thyroiodin, discovered by Baumann. Both contain iodine, and both are requisite to produce the specific effects of the gland itself. Several chemical processes have been introduced with the object of separating the active principles from the animal substance—for example, boiling in dilute sulphuric acids, or in solutions of caustic soda, or digesting in closed vessels with water at a high temperature, or digesting with pepsin, or extracting with solutions of common salt and precipitating the solution with tannin.

It has been found, however, that none of these processes separate the active principles of the gland in the form or proportion in which they are contained in the gland ; they all result in the destruction of the iodoglobulin entirely, or in the partial separation of the thyroiodin only, or in its association with other substances of a useless or objectionable nature. That the products of these processes have not the same medicinal effect as the gland itself is admitted by all who have employed them as substitutes on account of their greater convenience.

Thyroglandin is prepared by the following chemical process :

1. Selected and healthy glands are macerated in cold water, which extracts the soluble iodoglobulin. This solution is decanted or filtered off, and is evaporated to dryness at a temperature of 212°F. The resulting product is reduced to a fine powder.

2. The residual glands are then boiled for one hour with a weak solution of caustic soda which eliminates the thyroiodin. After filtration the solution is exactly neutralised with hydrochloric acid, evaporated to dryness, and powdered.

3. The two powders so obtained (iodoglobulin and thyroiodin) are mixed together and constitute thyroglandin.

It will thus be seen that this new preparation is made in such a way that thorough sterilisation is secured, and that it is freed from everything deleterious which might be derived from the other animal substances of the gland, while it contains the iodoglobulin and thyroiodin in the form and in the proportion in which they exist in the gland.

Thyroglandin keeps perfectly, if kept thoroughly dry, without deterioration. It may be administered in capsule or in tablets, and in doses of 3 to 5 grains, which are equal to half a gland of average size and weight.

The very active therapeutic properties which are exhibited by thyroglandin lead me to believe it is a preparation of great value. If it really represents all the active constituents present in the gland in their correct form and proportion, it may prove a very useful addition to our thyroid preparations.

The Effect of Telegraph Work on the Health.

In a paper read before a meeting of railway telegraph clerks in Manchester on March 26th, Mr. J. T. Hull, president of the Railway Telegraph Clerks' Association, gave so unfavourable an account of telegraph work in relation to the health of the operators that he not only described it as being responsible for many bodily ailments, but said that there was an extreme probability of its "being the most deleterious in its effects upon the operator of any trade or profession hitherto regarded as dangerous." Telegraphy, he said, is essentially a mental action, involving principally the auditory nerves. The development of this faculty in a proficient telegraphist may be approximately ascertained by a simple calculation. In ordinary working—that is, reading twenty words per minute, the operator distinguishes about 150 alternations of pitch (on the needle) or duration of beats (on the sounder) and under pressure it is said that as many as 450 may be accomplished. In telegraphy there is also the translation of the auditory symbols into visual symbols—i.e., the writing, which implies mental exertion. While normally 120 discriminations per minute may be made of varying sensations the telegraphist never does less than 150 and may do 450 per minute. Without taking the extreme case it may, therefore, be safely asserted that the auditory faculties of telegraphists are about $2\frac{1}{2}$ times as sensitive as those of ordinary persons. In telegraphy it is the uninterrupted continuance of nerve stimulation, the monotony of sound, and the fixity of attention which are injurious, the work being pre-eminently the reception and mental arrangement of monotonous sounds and demanding close and arduous attention. That this condition of concentrated attention is most acutely enervating is the unanimous testimony of all physiologists. During a pressure of work the interference with normal respiration, the increased action of the heart, and the rush of blood to the head may be readily observed. These effects are most noticeable during a spell of rapid sending and are probably due to the physical movements making the attentive effort more onerous. The prevalence of phthisis among telegraphists is clearly shown in the following tables taken from the evidence given by Mr. Garland before the Royal Commission appointed to inquire into the grievances of the Post Office employes :

TABLE A.—*Showing Comparative Percentage of Mortality from Respiratory Diseases, with Deaths after Fifty-five Years of Age Excluded.*

—	Phthisis.	Other respiratory diseases.	All respiratory diseases.
All adult males	13·8	10·6	24·4
Telegraphists	46·6	12·9	59·5
Grinders (cutlery)	33·1	24·2	57·3

TABLE B.—*Showing Comparative Percentage of Mortality from Respiratory Diseases, all Ages from 15 up to 65.*

Ages.	All males.	Telegraphists.	Grinders.
15 to 25	3·5	18·4	4·3
25 to 35	4·9	23·1	8·3
35 to 45	5·3	12·0	13·6
45 to 55	5·3	4·3	17·7
55 to 65	5·4	0·5	13·4
Over 65	8·2	0·5	6·7
All ages	32·6	58·8	64·0

Mr. Hull further said that he suspected that many telegraphists suffered from a modified form of chorea consisting of a twitching of the fingers in accordance with the telegraphic symbols of the alphabet.—*Lancet*, August 6, 1898.

The Earnings of Medical Men in France.

M. Henri Bérenger discourses in the *Revue des Revues* more or less pleasantly, but apparently with authority, on the Intellectual Proletariat in France. Here are some of his observations referable to the medical profession. There are in the whole of France, inclusive of Corsica but excluding Algeria, between 12,000 and 13,000 practising medical men, of whom 2500 live in Paris, the remainder being distributed throughout the provinces. As regards the metropolitan practitioners the following is the approximate scale of earnings: 5 or 6 earn between £8000 and £12,000 per annum, from 10 to 15 earn about £6000, 100 earn £2000, 300 earn between £600 and £1200, 800 earn between £320 and £600, 1200 earn less than £320. Of the 10,000 provincial practitioners not more than half make a decent livelihood. Every year the various universities turn out about 1200 qualified doctors of medicine. The average duration of a practice may be set down as between twenty and twenty-five years; it follows, therefore, that the production is twice as great as the demand. M. Bérenger's statistics may be correct, but apparently he neglects to make allowances for the young medical men who are absorbed each year in the army, navy, and colonial services. 10,000 practitioners for the whole of provincial France seems, moreover, to be anything but a liberal estimate, seeing that the number on the British Medical Register is at least three times greater.—*Lancet*, August 20 1898.

CLINICAL RECORD.

Indian.

CASES FROM DR. M. L. SIRCAR'S CLINIQUE.

1. *A Case of malarious fever with amenorrhœa.* Patient, a Hindu female, aged 25, came to me for treatment on the 14th Nov. 1897. Her symptoms were fever in the afternoon, much thirst and frequent and copious urination especially at night, some swelling of abdomen evidently from fluid in the peritoneal cavity. I prescribed *Squilla* 4 x, and she was well in a few days.

2. *A Case of malarious fever with enlarged spleen.* Patient, a Hindu female, aged 60, came under my treatment on the 20th Nov. 1897. She was suffering from fever for 3 years. Her spleen was considerably enlarged. The fever comes on every afternoon. There was absolutely no thirst. *Pulsatilla* 6 x, cured her wonderfully in a few days, even the chronically enlarged spleen was much reduced.

3. *A Case of Cataract and Pseudophthalmitis.* Patient, a Hindu female, aged 55, came under treatment on the 25th Nov. 1897. There was cataract in both eyes, in the left it was fully formed and there was no vision. There was some dim vision in the right, but there was inflammation of the whole ball with considerable pain. I gave her *Phos.* 6x, pilules, one for a dose, twice a day. In three days the pain in the inflamed eye was considerably less, in a week more it was nearly gone, and she could see better with it. In a month the inflammation altogether disappeared, and much useful vision was restored. Further progress of her case could not be observed, as she went away to her native village, and no report has since been received.

4. *A Case of Elephantiasis of scrotum and skin of penis.* Patient, a Hindu, aged 44, came under my treatment for the above complaint. on the 6th Dec. 1897. He was subject to fever during new and full moon for 22 years. The scrotum and the skin of the penis used to swell during the continuance of the fever and subside after its disappearance. For the last 6 months there has been no subsidence of the swelling, and it has now assumed the appearance of elephantiasis. Ten years ago he had syphilis of which he was cured by old school treatment, but without salivation. Secondary symptoms appeared a month after the healing of the primary sore. Burning ulcers broke out on the scrotum, and they were cured by a course of sarsaparilla. There are no ulcers now but there is considerable itching in the scrotum. The last attack of fever he had was in July last and it had continued for two months. No fever since September. Palms and soles discolored, and corns have appeared on them. Had gonorrhœa and hæmaturia when only 16 years old. Gave him *Silicea* 12 x. He has steadily improved under it. The improvement commenced in his feelings which were very despondent; then the sensation of heaviness in the parts disappeared, and the hypertrophy of the scrotum, I learn, has nearly gone.

Foreign.*A Case of Orificial Surgery.*

By DR. T. SCOTT McFARLAND, M.D.

OF SEDALIA, MO.

On February 15, 1897, a young couple, bright, intelligent appearing people, came into my office with their only living child, a little girl of two years. She was large for her age, with an abundance of long, light golden hair, fair smooth skin, blue eyes, and a child who never had appeared to notice anything, could not sit alone, nor help herself in the least, could not speak a word. Aggravated case of strabismus of one year's standing. Every few moments she would grind her teeth, of which she had her full complement, squint her eyes, straighten out and utter a cry, not unlike the familiar one of an epileptic.

Parents had taken her to every doctor in town as well as before the Missouri State Medical Society, where after careful examination they pronounced her about hopeless, but advised to do nothing and at maturity she would probably improve. The parents were not satisfied, as that was the advice given them with an older child, and it died at two and one-half, with symptoms identical to this one. Next they took her to an oculist to see if he could relieve the strabismus. He examined the eyes carefully and pronounced them perfect. Told the parents trouble was of deeper origin, he did not know where, and advised bringing her to me, which they did as before stated.

The family history was nil, save mother had history of brain fever one year before marriage. Both parents very nervous. No other history of any severe illness for generations.

I had the child stripped and immediately saw that the body was covered with hair, as completely as if she were a fully developed woman instead of a two-year-old child.

Knowing such a growth of hair came at puberty, and puberty meant an activity of the sexual system, I examined the clitoris, or where it ought to have been, but it was so neatly sealed in by a hypertrophied hood that I could not find a trace of it.

I told the parents I believed we had the key to the situation, and although it might not entirely cure her, still we had a good foundation upon which to build hope of a cure. As it was the first ray of hope they had ever received they said by all means try.

We immediately administered chloroform and began to unearth the most completely bound down clitoris I have ever seen. The hood where it was amputated was just one-half inch in thickness. From that day the child began to improve; and now fifteen months later, with no medicine whatever save, possibly, 3 3 of zinc phos., 6x, and 3 ss of passiflora, she can walk, talk some, sleeps and eats well, eyes nearly straight, but little grinding of her teeth. Is still very nervous but infinitely improved, and according to her mother's statement of May 19th, she is getting better, stronger, and in every way improving every day.

Some of the "blind doctors" have opened their eyes and are un-

xious to know what has brought about such a change.—*Journal of Official Surgery*, July 1898.

[It is a pity Dr. McFarland does not tell us when and for what symptoms or condition did he prescribe *Zinc. phos.* and *Passiflora*. Three drachms or 180 grains of the former and half an ounce of the latter are no small quantities for a child only 2 years old. No doubt the circumcision was mainly instrumental in effecting the cure, but we should have liked to know what parts the drugs administered played in helping the operation. Surgeons, as a general rule, are apt to overrate the value of their operations and think slightly of remedial agencies which they look upon as mere accessories. But where these accessories are necessary their action in the process of cure should be taken into account, and not ignored. Surgeons, imbued with the spirit of homœopathy, as our official surgeons are, should not be influenced by what Bacon has called idols of the den.—EDITOR, *Cal. J. Med.*]

Three cases of Obesity and one Myxœdema, treated with Thyroglandin.

By DR. WILLIAM MACLENNAN, M.B.,

Late Assistant to the Chair of Materia Medica and Therapeutics, Glasgow University; Dispensary Physician, Western Infirmary, Glasgow, &c.

Last spring I obtained from Mr. E. C. C. Stanford, F.I.C., F.C.S., whose researches on iodine are so well known, a new preparation of the active ingredients—thyroglandin. I have made numerous trials of this substance in a number of cases of obesity, and in one case of myxœdema.

CASE I. *Obesity*.—B. McR., aged 21, married, complained of rapidly increasing gain of flesh, with dolphity and great shortness of breath on exertion. She was put on 1 grain of thyroglandin thrice daily for a few days. The dose was then rapidly increased until 9 grains in the day were being taken. The decrease in weight was as follows: June 1st, 12st. 4lb.; June 12th, 11st. 10lb.; July 10th, 11st. 2 lb.; Aug. 10th, 10st. 8lb.; September 4th, 10st. 5 lb.; September 29th, 10st. 11lb. Since last date this patient has been taking about 1 grain daily, and her weight remains fairly stationary.

CASE II. *Obesity*.—R. C. aged 46, married, multipara, consulted me on account of her obesity and dyspnœa. She was put on 1 grain of thyroglandin thrice daily, and as this dose was well tolerated it was rapidly increased to 9 grains in the day. Her weight at different dates was as follows: July 18th, 14st. 13 lb.; July 25th, 14st. 10½ lb.; September 17th, 13st. 12 lb.; September 24th, 13st. 10 lb.; October 8th, 13st. 1 lb.; October 19th, 12st. 9 lb.; October 26th, 12st. 5½ lb.; November 19th, 12st. 0½ lb.; November 26th, 11st. 9 lb.

CASE III. *Obesity*.—Mrs. M., aged 40, under 5 feet in height; had great difficulty in moving about, and complained of excessive dyspnœa on exertion. She was put on thyroglandin in doses similar to the two former cases, and her weight fell as follows: May 16th, 13st. 11lb.; June 14th, 12st. 11½ lb.; July 6th, 11st. 6lb.

In all of these cases the rapid loss of flesh was accompanied by few of the unpleasant symptoms so commonly experienced. There was no sickness, diarrhoea, sore throat, excessive sweating, or cardiac failure, and no persistent symptoms of thyroidism.

CASE IV. *Myxœdema*.—Mrs. P., aged 49. This patient first came under my observation in 1893. She was suffering from myxœdema of many months' duration. In June of that year the treatment with raw thyroid gland was begun. Four glands were given in the week. In two weeks a marked improvement began. Dyspnoea became less pronounced, insomnia disappeared, œdema of legs and arms diminished and coldness of the extremities became less. Her weight, too, was considerably reduced, and she was able to move about with some ease. At the end of two months a most obvious change in her facial expression was recognised. She continued the use of the gland for six months, with occasional intervals, which were followed by relapses if the cessation was prolonged beyond two weeks. This patient's residence being in the country, it was found to be inconvenient to procure the necessary weekly supply of fresh and healthy glands. In 1894 treatment was continued with the tabloids of dried extract. Since then almost all the preparations of thyroid, including several fluid extracts of various makers, and thyroïdin (Bayer's) have had prolonged trials, but the results were not satisfactory, while these preparations were not nearly so therapeutically active as the raw gland. Early in 1897 thyroglandin was begun. The dose was 5 grains daily. This was continued for one month. Her general condition when she began this treatment was similar to when the raw gland was first commenced, except that œdema and breathlessness were not quite so marked. She responded at once to the thyroglandin, and in three weeks she became more comfortable, greatly improved in appearance, and swelling disappeared almost entirely from her arms and legs. From that time up till now the thyroglandin has been continued, with occasional intervals of from two to three weeks. The therapeutic effect of this remedy seemed to me to be quite equal to that of the raw gland while it produced no unpleasant symptoms.

In many cases in which I have employed similar preparations prescribed at different dates; but under conditions as nearly as possible identical, the results have been far from uniform. I have been led to believe that these differences depend more largely on a want of uniformity in the preparation employed than on any inherent difference in the patient.

Most of the preparations in the market have some drawback, and, as far as I am aware, none of them contain the thyroïdin and the antitoxins in the same proportion, or of the same activity, as that in which they are present in the gland.—*Brit. Med. Journ.*, July 9, 1898.

Gleanings from Contemporary Literature.

VITALITY :

An Appeal, an Apology, and a Challenge Addressed to Brother Practitioners.
By LIONEL S. BEALE.

Continued from p. 238, Vol. xvii, No. 6.

Among the untenable propositions enumerated not the least extravagant is that in which the growth of living things is classed with the process of accretion or aggregation in the non-living world. Only watch the gradual living growth as seen by all in the little child. Can the faintest analogy be pointed out between this vital growth and any inorganic process whatever? Think of the increase of the several complex tissues, for example, in the arm or in a finger. As the member grows in length, do not the nerve plexuses, distributed to the peripheral parts become separated by a gradually increasing distance from the nerve centres, and does not this change occur not only without interruption but at the same time that steady improvement in nerve action is taking place? Do not new tissue formations, new growth, and new nerve action all actively proceed and simultaneously? How, then, can such phenomena be caused, directed and regulated by physics or swayed by chemistry?

If we study but a small particle of the growing tissues in properly prepared microscopical specimens we shall find millions of minute bioplasts among the tissues formed during growth—the vital phenomena and tissue formation and action proceeding with great regularity during the whole period; not only so, but evidence of anticipation of a future condition, of preparation for further growth and arrangement of tissue. Thus the co-development and action of the several tissues and their continued and healthy action are provided for during youth, adolescence, maturity, old age, decrepitude, up to death—one stage so gradually passing into the next that healthy individuals are scarcely aware of the occurrence of any change at all.

All growth through living nature is effected by living matter (bioplasma) alone. Who can show that any tissue of any living thing in this world is formed by *aggregation, precipitation, deposition, a sort of crystallisation*, or by the “differentiation” of a previously homogeneous exudation plasma?

Minute anatomical and chemical investigation and biological observation enable us to form in some degree a mental picture of the changes affecting the bioplasts of the tissues and of their action during life, and to form some idea of the phenomena which actually occur and which succeed one another from the time when the speck of living matter began to increase and multiply exceedingly, and some of the resulting bioplasts first began to produce perhaps only soft temporary tissue, to the time when the formation of lasting tissue and the construction of the several organs was complete, and their action became necessary to the well-being of the organisms now developed and attaining its normal and permanent characters. The

longing on our part to find out exactly how the several parts and organs of a complex organism are formed, and precisely how they act and what work they do is certain to lead to real advance of hygiene, psychical knowledge, and medicine.

Much, indeed, has been and is being gained in this direction, but our knowledge is still far from being accurate, definite, and complete in many important points which will certainly ere long be determined. Nevertheless, I appeal to all to consider whether the results of minute anatomical research and our knowledge of the minute structure and mode of action of various tissues and organs are not at this time really in advance of some of the doctrines still held and taught far and wide upon these matters—nay, upon the question of the nature of the endowments and the mode of increase of very simplest living particles in nature; and I fear it will yet be some time before a clear and accurate account will be given and generally accepted of what goes on at the moment when a molecule of non-living matter receives its vital endowments. Indeed, I doubt whether any student of any department of living nature can acquire from our best works on physiology a definite notion of the ordinary process which are necessary to his existence from moment to moment and to that of every living particle in the life world.

The importance of thorough investigation of the physical and chemical phenomena of the living body is unquestioned, but is it not a fact that during the last forty years or more there has been a persistent and most determined effort on the part of some highly distinguished philosophers as well as physiologists, physicists, and chemists, and even physicians, to persuade mankind that all vital actions are in their nature but physical and chemical, while no one has succeeded in proving his case or even in adducing evidence that his contention is likely to be established in the future? The chemico-physical investigation of living nature has rightly been regarded as a highly important department of scientific work and thought, but is it quite suited for the training of the medical student, or, indeed, for students generally? Nor is it the fact that only undue prominence has been given to the importance of physical and chemical phenomena, for has not the influence of vitality in determining the course and character of the physical and chemical changes in matter during the living state been by some recent as well as by ancient authorities wholly ignored and denied? Unfortunately, too, physico-chemical doctrines of life have been accepted and made popular, and in consequence many thoughtful persons have been persuaded that these views, if not at this time completely established, would certainly be proved to be true some time hence, just as the idea of the evolution of life somehow from the non-living has gained credence, although there is not a fact convincing to the reason to be adduced in its support. Indeed, no one who advocates the physical doctrine of life has even attempted to explain to us the exact difference between a particle of matter in the living state and the same particle when death has occurred. Does not the vast, far-reaching influence of special vital power which is

associated with a modicum of matter preclude the possibility of vital actions being only physical and chemical? Has any true analogy been pointed out between this far-reaching vital power over matter which perhaps is not to come under its influence for many years, and any physical or chemical action whatever? But some might say, "chemical action goes on after life has ceased in certain cases, as shown by considerable rise in temperature," to which the reply is that "in the situations where heat is being evolved in the dead body for some time after 'death' has taken place, particles of living matter or bioplasms still exist and continue to live until the temperature has ceased to rise."

Is it not indeed very doubtful whether the wonderful work of highly skilled scientific workers in physiological chemistry and physics in the splendid laboratories rightly provided in many institutions in every part of England will result in establishing the longed-for conclusions with reference to the nature and cause of vital processes, though quite recently another step towards that desired consummation of the universal operation of physical law seems to have been made by the discovery of "living crystals," of which I saw, or thought I saw—or did I dream I saw—the announcement? Almost daily new substances are discovered and bodies of wonderful properties extracted from a compost consisting of many textures, as well as the special secreting cells, vessels, &c., of an organ removed from a dead animal and beaten up into a soft pulp and then subjected to various chemical operations. But what right have we to assure that any of the substances at last obtained in a pure, perhaps in a crystalline, form were actually present when the organism was alive and the several bioplasms were performing their active vital functions? Is it reasonable to conclude that any theory based upon the results of such post-mortem operations ought to be accepted by us as even a probable solution of the facts, or that anything is likely to be gained by such methods of investigation concerning the nature of life? The conditions present in the laboratory are absolutely different from those in and around every particle of matter which is alive.

Is it not wonderful, therefore, that a few authorities still advocate a physiology consisting of chemical and physical phenomena, a physiology which would seem to be but a department of physics and chemistry—a physiology without vitality? No explanation whatever has been offered by the advocates of this abiotic physiology of the manner in which according to their view the chemical and physical actions are determined, governed, or regulated, or of the means by which the never-ceasing analytical and synthetical operations are carried on, or why the atoms—if atoms there be—change their places and relations to one another, or what governs their constant movements, or how their behaviour during life differs from their behaviour when life has ceased. But men are getting dissatisfied with a physiology and philosophy which postulates a living nature without vitality. Some of us rebel at being called mechanisms built by the sun, or laboratories of a kind, or machines for the conversion

of energy. Nor can we any longer find comfort in the comprehensive words, "protoplasm," "metabolism," "differentiation." We want to learn in what particulars Life differs from Non-life, or to be compelled by fact and reason to admit that there is but a difference of degree—the one state passing gradually into the other state.

Every attempt to account for the formation, construction, and action of tissues and organs of anything living without the recognition of vital agency has signally failed. Deposition from fluid, the gradual concentration of a solution, conversion, condensation, and processes allied to crystallisation have been proposed and found wanting. Much conjuring is still done by that learned word "differentiation," which seems to have satisfied many and silenced or soothed appeals for information. Can any one point to one instance in all living nature in which tissue or structure has appeared in the absence of living matter or bioplasm? Each little morsel of tissue is formed by a particle or a portion of a particle of living matter passing into the *formed state*, while the rest of the particle may continue to grow and furnish more bioplasm for subsequent conversion into formed material or tissue. The process of formation really depends upon changes determined by and prepared for during the life of the bioplasm, and must, as it seems to me, be referred to vital power, which ceases at the *moment of formation*. So slowly, so generally, does tissue formation proceed that it is impossible at present to see and follow the change from *living* to *formed* in any one spot of a specimen placed for examination under high magnifying powers; but by careful comparison of different parts of the same specimen in which tissue formation is going on a correct idea of the operation may be formed.

The particular characters and composition of the tissue must then, as it seems to me, be referred to the vital power of the bioplasm which was concerned in its production. As I have shown long ago, no tissue add one particle of new tissue to that which is already formed, and I venture to think this fact has been proved by the evidence that was advanced some years ago and illustrated by my drawings. The formation of the various special compounds which characterise different secretions, as bile, saliva, &c., as well as the so-called products of disintegration, are also results of the conversion of matter that *was living* into these substances. *Formation* therefore is absolutely different from all forms of precipitation, deposition, crystallisation and the like, and is one of the wonderful changes due to *Vitality*. All crystals are non-living and nothing that lives is crystalline.

I challenge opponents to advance evidence against the view that *formation, nutrition, disintegration, oxidation* as they occur in the living world, are dependent upon *Vitality*; that structureless living matter *bioplasm*, is the only substance capable of building up and breaking down, of forming tissue and removing it, of taking up matters resulting from disintegration and of conversion. So far from it being correct to say that these processes are results of physical and chemical change, are they not just as much dependent upon *Vitality* as the chemical operations in the laboratory are

dependent upon the *chemist*? So in the production of tissues and chemical compounds characteristic of particular and higher forms of life, between the constituents of the *food* on the one hand and these *formed matters* on the other, several kinds of bioplasm live and multiply, form and die, before the results which have been foreseen as it were from the first are accomplished—all through the complex processes, *living matter* being the sole metabolic substance and *Vitality* the sole metabolic agent.

Biology, though the most recent, is by no means the least important of the “ologies.” The course of physiology of man which used to be so useful to the student training for the practice of medicine has of late years, under the influence of purely scientific professors devoted to their subject, many of whom have been engaged in original research as well as in teaching medical students the general principles of physiology, grown to such an extent, both in length and in elaborate complexity, that a division of the teaching labours of this department has been rendered necessary and the course has been divided into physiology proper, histology, and elementary biology. The last has been regarded as a course preparatory to that of pure physiology and has usually been in the hands of a separate scientific teacher who has not yet advanced to special professorial dignity. In this elementary course is taught something of the use of the microscope and the best methods of preparing tissues for examination. The professor of physiology is now relieved of a difficulty resulting from the pupil not having been grounded in general knowledge of living nature before he entered upon the study of physiology proper.

In this biological course every student can gain some insight into the phenomena of life as observed under simple conditions in living organisms including plants. He sees and may contemplate the wonderful vital movements of living matter or bioplasm as exhibited in the *amœba*, living leucocytes, mucus, and pus corpuscles of man, also in the “cells” of *Vallisneria* and in the hair-like bodies of the flower of *Tradescantia*, a plant which will grow in the heart of London and other large cities. The student also gains some information about the general structure of some of the invertebrata and the general anatomy of the lower vertebrata as shown in the respiratory, circulatory, and digestive organs, and perhaps the nervous system of the fish, the frog, the bird, and the mammal. Under the new regulations this course of elementary biology may be taken at one of the several schools, colleges, or institutions now established in many parts of the country for teaching certain branches of elementary science and some technical subjects connected with secondary education for the people. By this arrangement the student of the future will be better prepared than his predecessors for entering upon the study of certain departments of science absolutely necessary for those who are training for our profession, and indeed fit subjects of general education. In these days ought not everyone to be acquainted with the broad facts of life and death, by which these very different states of matter are, and have ever been, sharply separated in nature? And is it not true that living matter should have an appro-

priate name by which it would be for once and for all marked off from matter in any other state—a name indicating its unique position in the material universe and its exceptional endowments—so distinct from all known material characters and properties? In *bioplasm* we have a word which is well defined, and unlike *protoplasm*—that may be living or dead or even cooked and yet be protoplasm. The instant bioplasm dies it ceases to be bioplasm and resumes the state of ordinary non-living-matter. I have for many years considered bioplasm to be the most suitable word for the matter which is alive, and for some time it has been inserted in most of our modern dictionaries. It may be well to note that in the New Sydenham Society's "Lexicon of Medicine and the Allied Sciences," by Mr. Henry Power and Dr. Leonard Sedgwick, among the words having the root *Bios* we find the following:—"biological," "biologist," "bioplasm," "bioplast," "biosis," "biotic," "biotomy," "bioscopy," "biolysis," "biogenesis," and "abiogenesis."

Physical and chemical physiology has advanced so much of late years that for its profitable study a good knowledge of chemistry and physics and a course of practical work in the laboratories is necessary. This for the general student of medicine would not be possible even though the medical course were extended to ten years. An advanced knowledge of physical physiology and familiarity with the numerous delicate and complex instruments required in the pursuit of this department would be of little service to the medical student in the future practice of his profession.

The case, however, is very different with regard to biology, for we are dealing with vital actions and deranged vital phenomena during our whole life, and it is certain that a knowledge of the minute anatomy of tissues and of the mode of their production and action must be of great assistance to us when we are trying to form a correct idea of what is actually wrong in the tissues of the person whose sufferings we are endeavouring to relieve and whom we are hoping soon to restore to the normal condition of health.

Of all the progressive changes carried out in medical education of late years I believe the recognition of biology as an essential subject to be one of the most important additions to our curriculum—not only because for the first time our students' early in their medical training are enabled to gain some general knowledge of living nature of interest to every intelligent person and absolutely necessary for a knowledge of man's structure, but also because what the student learns in this course may suggest to him certain new lines of investigation which may assist in advancing medical learning and the good management of the sick and injured.

In elementary biology the student learns how to prepare tissues for microscopical examination and the best means of clearly displaying structure and the colourless structureless bioplasts concerned in tissue formation and in promoting the circulation of fluid in the interstices of the tissues by which their healthy state and normal action are preserved.

As time goes on the new biology will become one of the most important

subjects of early medical education, and there is every probability of its taking its place as a necessary subject in the general education of everyone, I have no doubt that elementary biology will soon be taught in all national and board schools. Indeed, already a few school teachers are attending courses of biology in order that they may undertake teaching of this very important subject.—*Lancet*, June 11, 1898.

THE PROGRESS OF THERAPEUTICS. .

An Address Delivered at the Opening of the Section of Pharmacology and Therapeutics, at the Annual Meeting of the British Medical Association at Edinburgh, July, 1898.

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President of the Section.

GENTLEMEN,—The subjects included in this Section can never cease to be of interest to those engaged in the practice of medicine or fail to occupy a prominent position in the business of a congress like this. However widely diverse the topics dealt with in our proceedings here, there may be traced through them all a certain unity of purpose, and a common object towards which they converge—the treatment of the sick and suffering.

Doubtless, many points relating to treatment in individual diseases are fully discussed in other Sections, but it seems nevertheless an advantage that there should be a department in which therapeutics and our therapeutic resources are specially considered, and towards which some will naturally turn in the hope of gaining or of imparting information.

The conjunction of the two subjects of Pharmacology and Therapeutics necessarily makes the field in this Section a wide one. But it has the obvious advantage of bringing into contact for discussion those specially skilled in the knowledge of the composition, properties and actions of medicinal agents and those whose main duty lies in practically applying these in the daily work of their profession.

Having myself more in common with the latter category, I do not purpose in this brief address to dwell upon any subject in the domain of pharmacology, even had time or ability admitted of my doing so. But it would be impossible to avoid a passing allusion to the recent issue of the fourth *British Pharmacopœia*. Since the publication of the previous edition in 1885 a large number of new remedies of great importance and utility had been introduced, and were widely employed in medical practice. Some of these were embodied in the *Addendum* issued in 1890, but as they were constantly being added to, and as many of them had come to replace older remedies, a new *Pharmacopœia* became a desideratum. To the preparation of this work the General Medical Council addressed itself with great earnestness, and a mere reference to the names of experts whom they selected for carrying it out furnishes sufficient evidence that the latest and best results of science in the fields of pharmacy, chemistry, and medicine have been combined to make this authoritative publication as complete and reliable as possible. A work of this kind is of course open to criticism as to what it introduces, modifies, or omits, and such criticism has not been wanting; but it will probably be generally felt by those who have given their careful attention to the matter that the practitioner has been put in possession of a guide in which he may confidently trust in his important duty of prescribing.

Turning now to the subject of general therapeutics, it might perhaps be permitted in one occupying the position I have now the honour to hold in this Section, who has at the same time been closely associated with the

Edinburgh Medical School and with medical teaching and practice during a whole generation, to take a brief survey of the progress of therapeutics as witnessed by himself during this period.

At the commencement of that time, namely, in the middle Sixties, medical practice was in a transition epoch, and was only emerging from the influences of the humoralistic doctrines of disease which found active expression in depletory measures of treatment. The clinical student of those days, as I can well remember, was not a little perplexed by hearing from some of his teachers views calculated to engender scepticism in the potency or utility of most medicinal agents, especially in the acute and self-limited diseases; and from others, statements strong and dogmatic as to the virtues of one or other member of the *Pharmacopœia* in the treatment of almost every malady that formed a subject for investigation in the wards of our hospital. The net result to the young practitioner was undoubtedly salutary, since it led to questionings about the action of remedies, to experimental inquiries into some of the more important medicinal agents, and probably also to more intelligent and less lavish prescribing.

Passing over a few years, let me refer to the last meeting of this Association in Edinburgh in 1875, and recall the Address in Medicine delivered by the lamented Warburton Begbie—a memorable address which acquired a pathetic interest to all who listened to it from the fact that in the space of half a year from that time death had removed this cultured physician and estimable man. Dr. Begbie set himself to answer a question once put by the great Scottish philosopher, Sir William Hamilton, Has the practice of medicine made a single step since Hippocrates? and in a masterly sketch of the progress of medicine and therapeutics from ancient to modern times he had no difficulty in furnishing a conclusive reply. While appreciating to the full the wonderful sagacity and efficacy exhibited in some of the ancient methods of treatment which hold good to the present day, he showed how advancing knowledge and the development of the scientific as distinguished from the mere empirical side of medicine led by sure steps in the direction of a rational system of therapeutics. "It might," he said, "be a sufficient answer to the query of Sir William Hamilton, to signalise the discovery in modern days of vaccination, and the introduction of sulphuric ether and chloroform as anæsthetics," but he proceeded to enumerate many of the well-recognised remedial agents which have proved such potent instruments in the physician's hands for the relief of human suffering.

During the twenty-three years which have elapsed since the delivery of Dr. Begbie's address, the number of new remedies has been multiplied enormously, chiefly by the adoption as therapeutic agents of substances which organic chemistry has so richly provided, the virtues of many which are beyond all doubt. An illustrative instance might be cited in the power of salicin and salicylic acid and its compounds to lessen the pain and in many cases to shorten the attacks of acute rheumatism. The groups, too, of synthetic analgesics, antipyretics, and antiseptics have furnished us with substances which (while requiring at all times care and judgment in their selection and administration) are among the most widely employed and efficacious of the resources for treatment placed in the physician's power.

Conspicuous among the therapeutic advances during the period now referred to has been the large number of remedial measures which lie outside of the *materia medica*, and which, many of them at least, are eminently rational in their conception and application. The developments of pathology and more accurate clinical methods have contributed in no small degree to bring about this result.

A therapeutic measure of immense value is the method of treating

stomach disorders by lavage, a plan which owes its origin to professor Kussmaul, who originally designed it for use in dilatation of the stomach, but which has since been extended to the treatment of many other painful conditions of digestion to which it can oftentimes bring marked relief. A better acquaintance with the processes of the gastric chemistry, too, has been turned to useful account in the various methods of peptonising foods in cases of dyspepsia.

An entirely new field of therapeutics has been opened up by antiseptic surgery, and some of the most formidable and fatal of all maladies which were at one time regarded as outside the reach of remedies have been made possible of cure. This has been especially the case as regards the abdominal cavity, where the wall of partition which divided medicine and surgery has been broken down and conditions of disease formerly believed to be hopeless are now successfully dealt with by surgical operation. The gynaecologists led the way in this direction. Many cases of acute peritonitis which thirty years ago were treated only by opium are now explored surgically, and whether due to the perforation of a viscus, disease of the appendix vermiformis, or acute intestinal obstruction are cured by the timely intervention of the surgeon. Excision of the kidney and operations upon the liver, the stomach, and intestines are now common occurrences and many a life is preserved and much suffering spared by these modern methods of treatment. Indeed, it sometimes happens that cases which on exploration were found to be beyond the reach of radical treatment may yet by this very operation be materially benefited as regards some of their distressing symptoms. The surgery of the brain, at one time deemed a practical impossibility, has yielded, especially in the hands of Professor Macewen, results which have arrested the attention of the whole world of medicine.

In my work as a hospital physician, extending back over a long period of years, I have been much beholden to my surgical colleagues, and I take this opportunity of bearing my humble and grateful testimony to the enormous debt which, particularly in recent times, medicine owes to surgery. The results so fruitful of good to suffering must ever remain associated with the name of Lister, whose work has rendered them possible of attainment.

The employment of massage as a therapeutic agent has been found to be a valuable adjuvant in the treatment of various forms of paralysis particularly those of peripheral origin; in many functional disorders of the nervous system; in the disabling sequelæ of rheumatism; in certain varieties of dyspepsia; in insomnia, and in the debility of convalescence.

The amount of aid to be obtained from electricity as a therapeutic measure is not to be gauged by the comparatively limited extent of the results hitherto obtained by its use. Its more recent developments seem to promise for it a wider sphere of useful action as a means of treatment.

The employment of various forms of baths in the treatment of disease has until recent times held a much less prominent position in this country than on the Continent. But their value is now gaining much wider and more practical recognition, and some of our large hospitals are providing the means for establishing a separate department for the systematic application of this important therapeutic agency. In this connection it is satisfactory to be able to point to the large addition to the Edinburgh Royal Infirmary now in course of erection, in which the managers of the institution have made provision for the accommodation and full equipment of a balneological department.

The application of regulated exercises in the treatment of heart disease by the Oertel system or by the more recent Nauheim method has been found to yield excellent results in many conditions of cardiac enfeeblement

with or without valvular disease. Nevertheless the range of applicability of this form of treatment is probably less extensive than some of its more strenuous advocates contend, and at all events much care and discrimination are called for in the selection of presumably suitable cases and vigilance in observing the effects lest harm result.

The open-air treatment of phthisis in specially constructed sanatoria has recently awakened widespread interest. This method, which seems to rest upon a scientific and rational basis, is still only on its trial, yet results of an encouraging kind have already been obtained.

Time will not permit of any detailed reference to the steps by which it became evident that to the atrophy or abolition of function of the thyroid gland was due that remarkable disease, myxœdema, characterised by such strange physical and mental transformations. But the discovery, depending upon the observations of Kocher, Hersely, Murray, and others that the introduction of fresh thyroid into the system of a myxœdematous patient was followed by the rapid disappearance of all the symptoms may justly be regarded as one of the greatest therapeutic triumphs of modern times, while it has opened up a field for further effort in similar directions which is being assiduously cultivated.

Of no less importance, and with a still wider range of beneficent result, are the means which bacteriological investigation has placed within our power of identifying specific organisms in infectious diseases and observing their life-history and toxic properties. The way has thus been opened for the scientific study of immunity, and this again has resulted in the discovery of protective and curative antitoxins, of which that of diphtheria is the most outstanding example. The testimony which has been borne to the value of this treatment in that dreaded malady has been universal. Others of the deadly scourges of humanity are now also being effectively combated by serumtherapeutics. For this work we are indebted to the Pasteur Institute, where also the antirabic treatment of hydrophobia was discovered by its famous founder.

It would be impossible in any sketch of therapeutic advance to omit a reference to the growth and development of the modern system of nursing the sick. It is difficult for those who have grown up in this system and have never had experience of any other to realise the full extent of the benefit to practical therapeutics which has resulted from the employment of refined, educated, and properly trained women in this work. Prior to the period to which I am referring the nursing of the sick and hurt in hospitals was done by women who had had no special training for this work, and while many of them did their duty admirably up to the extent of their light, and were worthy of all praise, it cannot be denied that a large proportion of them were utterly unfit to engage in it. If such was the nursing service available for hospitals, it was still worse as regards the community at large, and especially as regards the poor, who in this matter were for the most part absolutely neglected.

The work of setting apart properly equipped women as nurses, with which the name of Miss Nightingale will ever remain associated, came in time to change the old order, and during the past 30 years the growth and development of what may be called skilled or scientific nursing has been phenomenal. It has had the effect of revolutionising to a large extent hospital treatment, has in calculably contributed to the relief and comfort of sufferers, and has lightened the labours and anxieties of medical men.

Outside of hospitals, throughout all classes of the community, the benefit has been no less conspicuous. The beneficent work of nurses is universally recognised and appreciated by the public, and is happily now made available for the poorest of the poor.

In wrapping up this hurried retrospect, which is largely a personal one,

seeing that of most of the illustrations now cited I have had ample opportunity of proving the efficacy, it is not too much to assert that the generation which ends with the century now closing marks an era in therapeutic progress not witnessed in any corresponding period during its course, if indeed ever before. From the resources thus placed in the power of medicine for dealing with bodily ills the gain to humanity is undeniable. It can scarcely be doubted that thereby the average of life has been lengthened, and it is certain that the pains and miseries of disease and death have been wonderfully lightened.

The survey now made has obviously been a very incomplete one, and there are numerous topics which might have been dealt with, any one of which could have formed the text for an address. Some of these relate to subjects that are so to speak intangible, but are not on that account any the less real.

The power of suggestion as a factor in therapeutics has gained wide recognition in recent times. The numerous directions in which it may be exercised are necessarily better realised by some practitioners than by others. But there is one manifestation of it which applies to the case of all—that is, the personality and moral influence of the physician in his relations to his patient. It may, indeed, be difficult or impossible to appraise the absolute therapeutic value of the output of his sympathy and the tone which may be imparted to his ministrations. But when these are dictated by the highest motives which can inspire a life, they are laden with true healing virtue to the sufferer, they tend to exalt the physician's office in the estimation of mankind, and they cannot fail of their reward.

The three subjects chosen for special discussion in this Section possess for the practitioner much interest both clinically and therapeutically.

1. As regards the first, there are no disorders more frequently brought under his notice and calling for his interference than those of the digestive organs. Until quite recently the treatment of this large and varied class of maladies was far from satisfactory, owing chiefly to the difficulty of associating the symptoms present with any definite morbid process. The more accurate knowledge of the chemistry of digestion in all its stages and the means of diagnosing its faults by the methods for collecting and testing the gastric contents have done much to rescue the treatment of the stomach disorders from the sphere of empiricism, and to place it upon a rational foundation. We are fortunate in having present with us to take part in the discussion some of those whose work and writings have been largely instrumental in achieving this result, and we especially extend a cordial welcome to those foreign representatives whose names are familiar to us as leaders in this matter.

2. The treatment of chronic kidney disease is a subject of scarcely less importance than the last from the frequency with which it is encountered in practice and its liability to be overlooked. The comparative powerlessness of remedial measures to influence serious structural changes existing in the kidney, or to stay the progress of the resulting nutritional disturbances affecting a wide range of tissue throughout the body, and full of disastrous possibilities, combine to render the therapeutics of chronic renal disease a somewhat disheartening topic. Nevertheless it is certain that many of the symptoms attendant upon this morbid state may be ameliorated, and that dangers may be averted and comparative health and comfort often secured by a well directed line of treatment. With this object the discussion proposed cannot but be of use as affording an opportunity for suggestions and for a comparison of experiences.

3. The importance of the synthetic analgesics cannot be questioned. There are few medicinal substances in more common use at the present time. And it is to be observed that besides their administration under medical advice they have come to be extensively, and it is to be feared

often recklessly employed without it. They possess undoubted value, but they have their dangers; and it will serve a useful purpose if a discussion embracing both pharmacology and therapeutic considerations can bring out more clearly their true and safe position as medicinal agents.

It is quite obvious from the amount of time available that the discussions upon the topics now named can be of but limited extent and mostly upon only general lines. But notwithstanding such inevitable restrictions the hope indulged that from these discussions as well as from the important communications which are to be submitted the work of the Section may be not unfruitful in useful results.—*British Medical Journal*, July 23 1898.

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**OFFICIAL DECLARATION OF THE END OF
THE PLAGUE IN CALCUTTA.**

MONDAY, the 10th October, 1898, will remain a memorable day for Calcutta, as the day on which Government declared the city free from Plague. We have great pleasure in giving here the Resolution of Government on the subject, and we doubt not, the wisdom of it,—both in abolishing the plague-regulations now unnecessary, and in insisting on the continuance of the sanitary precautions which have hitherto been taken so successfully against the fell disease by Government, the Municipality, and the citizens of Calcutta,—will be gratefully acknowledged by all.

RESOLUTION (*Calcutta Gazette Extraordinary*, Oct. 10, 1898.)

“The Lieutenant-Governor has the great pleasure of announcing this day that Calcutta is now free from the infection of bubonic plague, no fresh case of or death from that disease having occurred for ten days since the last reported case was discharged cured from hospital on the 28th ultimo. By a Notification No. 6026 of this date, all inspections of, and restrictions on, travellers proceeding from Calcutta have been withdrawn, and detailed orders to this effect have been issued to the authorities concerned. By Notification No. 14 of this date, the Lieutenant-Governor has also withdrawn those provisions of Plague Regulation No. 14, dated 7th June, 1898, which require that the passengers and crew of all vessels leaving Calcutta for any port out of India, or for Rangoon, Aden, or the ports of the Madras Presidency, shall be medically examined *on shore* at the time of embarkation. The passengers and crew of such vessels will now be subject to medical examination either on board or on shore, as may be found convenient, and provision has also been made, in the case of passengers, for the acceptance of a certificate signed by a Commensal Medical Officer, in lieu of such examination, as was the rule in force, under Plague Regulation No. 3 of 17th August, 1897. By these orders both the foreign trade of the port and the inhabitants

of Calcutta who have occasion to travel, will be relieved from the restrictions which the outbreak of plague in April last, now happily at an end, rendered it necessary to impose.

"2. While, however, the Lieutenant-Governor has, with the satisfaction he shares with the whole community, taken the earliest opportunity to declare that Calcutta is free from the infection of plague, he feels it incumbent upon him to utter a word of warning. Though the town is free from the immediate presence of plague, it is too soon to assume that the danger is wholly past. The beginning of the cold season is now at hand; and the experience gained elsewhere shows that this season is liable to be accompanied by renewed activity of the disease. While therefore he earnestly hopes and believes that the plague, which had obtained but little hold on Calcutta and has now quitted the city, has gone for good, it is nevertheless of the utmost importance that there shall be no relaxation of the precautions which are being taken to prevent an outbreak of the disease, and to detect cases promptly if they should occur. The Lieutenant-Governor trusts that the ward, caste, and family hospitals which, with such praiseworthy generosity and public spirit, have been opened by many sections of the public and by private individuals, will be maintained in working order for some months to come: and he particularly desires that the special efforts which have been made by the Corporation to make the town clean and keep it so may in no respect be remitted. It would be a dangerous error to suppose, because the hospitals have been little used, that therefore they were not required; or to imagine, because the plague has not made good its hold upon the town, that therefore the special sanitary measures taken during the past two years have been infructuous or unnecessary. The Lieutenant-Governor relies, as heretofore, on the good sense and hearty co-operation of all sections of the community to permit no relaxation of the vigilance which has thus far been attended by success, so that if unhappily the disease should again present itself at our doors, it may find us still prepared to meet it."

ACTION OF TARTAR EMETIC UPON HEALTHY ORGANISMS.

Our distinguished French colleague, Dr. P. Jousset, in association with M. Lefas, has made a number of experiments with *Tartar Emetic* (Tartarus Stibiatus, the double Tartrate of Antimony and Potassium) on rabbits and guinea-pigs, in the laboratory of l'Hôpital Saint-Jacques of Paris, with a view to determine their pharmacodynamic action upon healthy living organisms. An account of these experiments has been embodied in an article which has appeared in *L'Art Medical* for August. By way of preface they have made the following observations:

"Tartar Emetic is a most frequently employed medicament in therapeutics. Clinical experiences and laboratory experiments are very numerous; but as they are contradictory, we have instituted, in the hôpital Saint-Jacques, experiments having for their object to clear up obscure points still existing about this drug. The practical histological researches by one of us (M. Lefas) constitute a great advance upon the works of our predecessors, and we are able to precisionize the lesions determined by the emetic upon the lungs, the liver, the kidneys, and the stomach. The animals experimented upon were the rabbit and the guinea-pig. The Emetic was administered hypodermically in increasing doses, commencing with a milligramme. These were graduated in a manner so as sometimes to produce rapid death in a few hours, and sometimes slow death in several weeks; and we have been able by this method to obtain, if not all, at least most of the lesions which may be produced by Tartar Emetic."

They then give the following résumé of the principal features of the pharmacodynamics of the drug:

"In man, in medium doses, from 5 to 10 centigrammes, the Emetic produces well-known vomiting and purgative effects. These evacuations are accompanied by considerable malaise, with muscular prostration, coldness, acceleration of the pulse and of the respiration. When the vomiting has ceased, there is produced a reaction, the malaise disappears, and the heat and the vital energy return. The respiration, at first accelerated and regular at the commencement of reaction, becomes slower in its secondary effect, and presents all the characters of asthmatic dyspnoea: expiration long and plaintive.

"In toxic doses, in acute poisoning, Tartar Emetic produces symptoms very analogous to cholera. The bilious vomitings occur 10, 15, 20 times in an hour, as also the alvine evacuations; the thirst is excessive; then the following symptoms are developed: frequent cramps in the limbs, increasing prostration, livid skin, slowing of the pulse and respiration, suppression of urine, asphyxia and death.

"In some cases, from enormous doses, the collapse and death take place without any evacuation, showing that the direct and energetic action of the emetic tartar is directed against the vital energies.

"Tartar Emetic is, however, a true poison of the heart, upon which it acts directly. In cold-blooded animals, under the influence of 5 centigrammes, there is augmentation of the force and number of movements of the heart for five minutes, followed by symptoms of cardiac paralysis. In warm-blooded animals there is transient augmentation of the pulsations, then the contractions of the heart diminish in frequency and in force, becom-

ing irregular, and the heart stops by arrest at the diastole. The blood pressure is very much diminished."

The authors then cite, from Nothnagel and Rosslach, the following symptoms from long continued small doses experienced by Drs. Meierhofer and Nobiling, who began with 0.001 and raised it to 0.01 of a gramme: temper wilful, heaviness of head, weakness of limbs, drawings and tearings in the joints, coldness, excessive secretion of saliva, clammy tongue, thirst with sensation of internal heat, determination of blood to the head, somnolence, sleep with troublesome dreams; frequent, irregular pulse; vertigo, photophobia; face pale, cast down; eyes sunk, surrounded by a blue circle; accumulation of mucus in pharynx, difficult to swallow. The further symptoms from continuance of the drug were: diminution of appetite, sensation of pressure in the epigastrium; sharp pains in the intestines frequently renewed, nausea, anxiety, frequent yawning, dyspnoea, extremely troublesome anguish in the chest and heart; abdomen tight, painful on pressure; stools very frequent, semi-liquid, or on the contrary, constipated; sensation of cold in the whole skin; augmentation of the urinary secretion, not due to the drug, but simply to the large quantity of water drunk; beatings of the heart more and more feeble and slow; heaving of the chest, corresponding to the apex of the heart, more extended, but more intense than normal; countenance emaciated; general prostration and emaciation.

When the dose of 0.01 gme. was reached the following symptoms were observed: eructations; efforts at vomiting; stools frequent, liquid, mucous, bilious, greater extent of hepatic dulness and pain in the hepatic region; colic; persistent gripes; itching of the skin; increased secretion of mucus; sensation of arrest of the lesser circulation.

On the appearance of albumin in the urine, the experiment was discontinued by both Dr. Nobiling and Dr. Meierhofer. The experiment had lasted fourteen days, and during this time the weight of the body diminished by $3\frac{1}{2}$ kilogrammes. The appetite did not commence to improve till three days after the discontinuance of the poison, and it was not till the end of two months that the toxic phenomena entirely disappeared.

As regards the lesions produced by Tartar Emetic in animals, our authors notice the difference of opinion still existing on the subject, and attributes it to the different doses employed in the experiments as also to the absence of histological examination. "All authors are agreed that when death takes place in rapid poisoning of warmblooded animals, it is from paralysis of the heart; the death occurring during diastole, the ventricles and the auricles being gorged with liquid or coagulated blood. In a case in which the progress of poisoning was slow, the heart was found small and flabby, the cavities were empty and nevertheless

the left ventricle was not turned upon itself as in death during systole. The muscle appeared paralysed. Like Phosphorus and Arsenic, Antimony gives rise to fatty degeneration, principally of the liver and of the cardiac muscle. According to Magendie who had employed intravenous injection of Tartar Emetic, the lungs of the animals experimented upon were hepatised in some places and splenised in others. Pécholier noticed congestion of the lungs in his experiments, particularly in the 3rd, the 8th, and the 10th. In the 11th experiment, he noticed several hard nuclei, non-aerated, non-crepitant, which sank in water. These lesions have been established in cases in which the dose of the emetic was considerable.

"Opposed to these experiments are the recent ones of Ackermann. This author had poisoned twenty dogs with Tatar Emetic and had never observed any pulmonary lesion.

"The results of our experiments have demonstrated that in cases in which the animals were killed by medium doses, the lungs appeared healthy; but histological examination enabled us to establish in these organs positive signs of broncho-pulmonary inflammation. The experiments of Ackermann are, therefore, only negative in appearance."

The CONCLUSIONS which the authors have arrived at from their experiments (on 2 rabbits and 4 guineapigs) are stated by them as follows :

"Tartarus stibiatus, in toxic doses, has produced in animals a rapid and considerable diminution of the respiratory movements (from 140 to 50 in a minute). At the same time there is an increasing diminution of the temperature, and after some alternations during which the respiration was less slow and the temperature less reduced, death occurs almost always from collapse. This termination was specially marked in two guinea-pigs who succumbed in a few hours.

"Once only in a rabbit there was produced diarrhoea. One ought not to be surprised at the absence of vomiting, as the rabbits never vomit.

"Our researches were chiefly inspired by the desire to verify the action of the Emetic upon the bronchi and the lung. Magendie and Pécholier had produced pulmonary hepatisation in animals, but the contradictory facts elicited by Ackermann threw doubts upon the results announced by his predecessors.

"Our experiments have demonstrated that in animals rapidly killed, as our guinea-pigs, there exist macroscopic signs of intense pulmonary congestion. These signs were wanting in rabbits killed by slow poisoning, and this absence of macroscopic lesions explains the results announced by Ackermann.

"From the point of view of histology there exist two things in poisoning by Tartarus stibiatus, constant lesions and variable lesions.

"The first are the lesions of the kidneys, realizing, as well in slow as in acute poisoning, a type of diffuse parenchymatous nephritis characterised by fatty-granular degeneration of the essential elements of the kidney. We know, from the works of Cornil and Brault, the frequency of this order of alterations in most of the infectious diseases, causing complete disintegration of the cells and their elimination by the urine.

"Equally constant lesions occur in the stomach in the form of hæmorrhagic ulcerations, which Letulle has demonstrated in relation to microbial thrombosis of infectious diseases. However, we do not pass over the rôle of the gastric juice in these cases. It is so true that the intestine (in which the reaction is alkaline) has appeared to us to be intact.

"The variable lesions are those of the liver and the lung. Two orders of phenomena have been observed. In the liver either amyloid degeneration (attacking however the gastric mucous membrane in this case), or incipient infiltration islets, accompanied by granular lesions of the hepatic cells. All this is observed in infectious diseases.*

"In the lungs there are two types of lesions, encountered also in infectious diseases: either incipient broncho-pulmonary lesions, or localised incipient infiltrations with desquamative bronchial catarrh.

"If we add the leucocytosis constant in our experiments we can push still further the comparison between the visceral alterations of Tartar Emetic poisoning and those of most infectious diseases.

"Thus, Tartar Emetic has a notable elective action upon the broncho-pulmonary apparatus. Hence we conclude that by virtue of the law of similitude, it is indicated in bronchitis and broncho-pneumonia.†

"We would call the attention of physicians to the gastric, the

* By weak but repeated subcutaneous injections of bouillon culture of *staphylococcus dorés*, N-P. Kravokow has frequently produced amyloid degenerations in the stomach and liver.

†Dr. Hughes, while fully admitting the homœopathicity of Tartar Emetic in tracheal, bronchial, and pulmonary inflammations, says that "in actual homœopathic practice it has not played so prominent a part in the treatment of these maladies as in that of the old school,—mainly, in all probability, because we have better remedies for some of their forms and stages. But there is very general agreement as to its value in the second stage of bronchitis in infants and aged persons, when the mucus is profuse and the expulsive power is feeble, so that much rattling of phlegm is audible." He quotes approvingly Bähr's statement that, "in uncomplicated pneumonia Tartar Emetic is scarcely ever indicated in the first stage, nor even at the beginning of the second. The time for this remedy commences with the resolution of the exudation. If this takes place rapidly, and the re-absorption be slow, the dyspnoea generally becomes quite considerable, because the lungs are unable to remove the copious contents from their cells. If now great dyspnoea be present, and a spasmodic cough with expectoration that affords relief, Tartar Emetic will have a fine effect."—*Editor, Cal. J. Med.*

hepatic, and the renal lesions which we have been able to produce in animals by the emetic. The study of these lesions by the histological method actually in use, has enabled us to exactly determine their characters, giving them a value which is not found in the works of our predecessors."

TOXIC SYMPTOMS OF HYOSCYAMUS.

DR. MARC JOUSSET has given in *L'Art Medical* for August an account of poisoning with Hyoscyamus of three little children, related in *Médecine Moderne* for July, of which the following is a translation. It is a pity we are not told definitely how the little children came by the poisoning, in what form and in what probable quantities was the drug taken. Probably, as would appear from the last sentence of the second paragraph, the children were playing in a place where the hyoscyamus plants had or were grown, and simply out of childish innocence they gathered the tops, put them in their mouths, and ate them. The omission of the condition of the pupils in the account is unfortunate. The perversion of audition causing the little patients to mistake the direction of the sounds to be the very opposite of that from which they came, was remarkable and, we do not think, was ever observed before.

"The author found three patients (age of one 3 years, and of two others 5 years) in a state of excitement, they were crying, throwing themselves from one side to the other, were swearing, were struggling so that in order to hold them it was necessary to employ considerable force. Sometimes they were uttering cries like those of meningitis. They were indifferent to their surroundings. Sometimes, however, they were acting as if somebody had called them. In these cases, the phenomena were very strange. The children heard the sound from the diametrically opposite side to that from which it really came. Thus, when the call came from the left side, for example, they turned their heads to the right side, and *vice versa*; they responded also (when they did respond) by addressing towards the side from which the sounds appeared to them to come. The author has repeated this experience several times; the results were always the same in all the three children.

"But most often they did not respond to any questions. They seemed absorbed in a sort of internal contemplation of their own selves, and the cries which they uttered, the movements which they made, seemed to correspond to this state. The movements themselves were not ordinary: the children were striking themselves, they were pinching the tips of their noses, the lobules of their ears, were making movements in the air, as if to break a branch (of a plant), then they were carrying their

hands to their lips and making a show of masticating something,—in a word, the whole of these movements reproduced the picture which seemed to be present in the minds of the children and which recalled to them the moments when they gathered the tops of *hyoscyamus*, carried them to their mouths, and ate them.

"In some moments the little patients were very calm, but these were moments of lull preceding a terrible crisis, reminding one of those of eclampsia. These paroxysms, numbering from 6 to 7 in each patient, lasted on an average from 3 to 7 minutes, and necessitated lukewarm baths.

"In the intervals between the paroxysms, when the children were permitted to walk, they fell forward suddenly, notwithstanding the excessive staggering. When they encountered an obstacle they tried to climb it, even when the obstacle was a wall. Then they made movements with their arms in a groping manner as if they were playing blindman's buff.

"There are thus sometimes co-ordinated movements to pluck fruits and to eat them, at other times inco-ordinate movements which manifest themselves either in the form of eclamptic paroxysms, or in that of staggering and uncertain walking.

"The usual treatment of *Hyoscyamus* poisoning was employed, and on the following day the little patients had nearly recovered. Nevertheless they remained feeble and apathetic for some time. An icteric coloration of the skin was noticed in two of them."

With reference to the remark of *Médecine Moderne* that in most of the treatises on Toxicology we have only confused facts about the poisonings by the narcotics, Dr. M. Jousset observes that "if we will refer to our works on *Materia Medica*, particularly to the *Elementary Treatise on Experimental Materia Medica* and *Positive Therapeutics*, we shall see that the characters of delirium, of somnolence, of convulsions caused by *hyoscyamus* are described fully and in detail, and the picture given of it presents all the symptoms which have been observed in these cases of poisoning related in *Médecine Moderne*."

Nevertheless, the report of the recent poisonings has been useful, and that in two ways. There has been confirmation of the old symptoms, that is, of symptoms already known; and there have been three additions, two nervous and one probably hepatic. Of the two nervous, the most interesting and singular was the perversion of audition, mentioned before, and the other was the attempt to climb an obstacle whenever met with. The hepatic symptom was the jaundiced tint of the skin in two of the patients. All these symptoms, whenever present, will no doubt furnish valuable additional indications for *hyoscyamus*.

PROSPECTS OF CIVIL ASSISTANT SURGEONS.

AFTER more than thirty years' struggle our Civil Assistant Surgeons found a friend in the head of their Department. This single circumstance seems to have materially contributed to the issue of the Government of India Resolution lately published on their future position and prospects. From the year 1837 when the grade of Civil Assistant Surgeons (then bearing the designation of Sub-Assistant Surgeons) was created to the year 1845, the late Medical Board referred approvingly to some of the difficult operations performed by this class of practitioners, and declared them to be "a most useful and meritorious class who seemed to spare neither time nor expense in adding to the knowledge they had already acquired." But when in 1846, owing to the high standard of education adopted in the Calcutta Medical College, and the remarkable progress exhibited by some of its students, the institution was actually recognized by the Royal College of Surgeons of England, the University College of London, and the Worshipful Society of Apothecaries, an unaccountable change in the opinion of the Medical Board took place. They now declared in direct contradiction to their previous favourable reports that the "demonstration of utility" by the Civil Assistant Surgeons was not in keeping with their early promise, and that the Hospital Assistants educated in the vernacular departments were fully equal to them in attainments. The late Council of Education, however, took up their cause, and persuaded the Government of India, and the late Court of Directors, to give to the Assistant Surgeons what Government have lately correctly described as "their first constitution as a regular Government Service." The decision of the Court was published in 1849, by which the following scale of pay was sanctioned, subject to passing examinations in the practical branches of the profession, after every seven years:—

Pay on appointment*	Rs. 100
After 7 years and up to the 14th year	„ 150
After 14 years	„ 200

This scale of pay had been left unaltered for about half a century, and till now the Civil Assistant Surgeons occupied "practically the position in respect of pay" assigned to them in 1849. The abolition of the Council of Education in 1854, left these Medical Officers friendless. To their repeated efforts to better their condition both their departmental chief and the Government of India turned a deaf ear. While Governor-General of India, Sir John Lawrence permitted the Assistant Surgeons to hold independent charge of civil stations on the same footing as the members of the Uncovenanted Medical Service. This order, however, not only remained almost a dead letter for nearly thirty years, but the Civil Assistant Surgeons, when made supernumerary and

without any definite appointment, were restricted to a much lower rate of pay, and their septennial examinations were made more difficult.

This status of the Civil Assistant Surgeons remained unnoticed and unremedied till 1894, when fortunately the post of Inspector General of Civil Hospitals, Bengal, was held by Surgeon-Colonel Harvey, who had previously been a Professor in the Calcutta Medical College, and as such was conversant with the real status and qualifications of the Civil Assistant Surgeons, who from the establishment of the Calcutta University, are recruited from its medical graduates. Dr. Harvey knew full well that the Indian medical practitioners, brought up in colleges where the European system of medicine is taught, had good opportunities of earning a decent livelihood by private practice without entering Government service, that these opportunities had increased much in recent years, and that as a consequence the members of the service had grown dissatisfied with their prospects. About this time, the merits of the Civil Assistant Surgeons were publicly recognized in the Indian Medical Congress organized by Dr. Harvey under the auspices of the Governor-General, and the Government of Bengal was persuaded to refer to a Committee then in existence the questions relating to the pay and prospects of Civil Assistant Surgeons. The report of this Committee and the recommendations of the Government of Bengal led the Government of India to devise a scheme for the improvement of the position of Civil Assistant Surgeons not only of Bengal, but of all India. About this time also Dr. K. N. Bahadurjee, whose untimely death in August last, in the thirty-eighth year of his age, has deprived Bombay, and, we may say, all India of the services of an eminent medical practitioner, proceeded to England to give his evidence before the Welby Commission, and succeeded in convincing many minds as to the unsatisfactory state of the native medical profession. The proposals which met with the approval of the Governor-General in Council were: (1) the abolition of what was called "unemployed pay" introduced in certain parts of the country noticed above (2) the creation of a new grade of Civil Assistant Surgeons on a higher rate of pay (Rupees 300 a month), and (3) the reservation of a certain number of civil stations for the medical charge of Civil Assistant Surgeons.

In 1895 these proposals were circulated for the opinion of local Governments and Administrations. Meantime Dr. Harvey was promoted to the post of Surgeon General to the Government of India. To meet the increased cost of the proposed senior grade, it was proposed to restrict the number of promotions to the grade on Rs. 200. But this proposal has been abandoned by the Government of India. The scheme sanctioned in 1849

has been allowed to continue. It has been ordained, however, that future "entrants" into the service will not be permitted as a matter of course to appear at the second septennial examination, but only when they will be considered by the Inspector General of Civil Hospitals to be fit for promotion beyond the grade on Rupees 150.

The senior grade of Civil Assistant Surgeons on a salary of Rupees 300 a month has been sanctioned. The number of officers in this grade must not exceed 10 per cent. of the total strength of the service in each Province, exclusive of those who may be permanently appointed to the charge of civil stations. Only thoroughly competent officers should be appointed to this grade, and promotions from the grade on Rupees 200 made entirely by selection and without examination; but the selection is not to be confined to those who have passed seven years in the grade, all thoroughly competent officers on Rs. 200 being declared eligible. The filling up of the full number allotted to the new senior grade has been left entirely at the discretion of the Local Governments and the Inspectors General of Civil Hospitals.

The system of unemployed pay adverted to above, which had come into force only in Bengal, Assam, the North-Western Provinces, Oudh and the Punjab, and which became a source of great vexation to the Assistant Surgeons, has been done away with, except as a punishment. It will be necessary however for Local Governments and Administrations to exercise the greatest care in preparing their future estimates for new admissions.

The Government of India have for the present sanctioned the reservation of nineteen Civil Surgeoncies for Civil Assistant Surgeons, leaving it to the Local Governments to appoint them to such stations as may be deemed suitable. It is proposed, however, to increase the above number of Civil Surgeoncies to twenty-eight. Assistant Surgeons, when posted permanently to the independent charge of civil stations, will receive pay at Rupees 350 a month rising to 500 by annual increments of Rupees 30.

Such is the new scheme promulgated by the Government of India for improving the position of Civil Assistant Surgeons. It will doubtless be a great boon to Burma and the Madras Presidency. We do not know how it will affect the North-Western Provinces, Oudh, and the Punjab. We doubt whether it will confer much advantage on the Bombay Presidency. But situated as poor Bengal now is, it will, we fear, derive the least benefit from it. Here there are at present about seventeen or eighteen First Grade Civil Assistant Surgeons receiving 300 or 350 Rupees a month. The creation of the new senior grade may give a higher rate of pension to some of the Assistant Surgeons, but their pay will remain as at present. Here even now there are one or two Assistant Surgeons in permanent charge of civil

stations, so that the advancement to the Civil Surgeoncy may affect the position of two or three officers only. With these exceptions and the negative advantage conferred by the abolition of the system of unemployed pay, the position of Civil Assistant Surgeons in Bengal will not be affected by the new Government order. We take this opportunity, however, to express our gratitude to Government for the benefits though small conferred on Bengal, and the still greater advantages which may be reaped in the other parts of this country, and express a hope that the number of Civil Surgeoncies allotted to Bengal, may be increased.

THE LATE DR. K. N. BAHADURJEE OF BOMBAY.

The subject of this notice, whose untimely death has been adverted to in our previous article, was not a member of our school, but he was a man whose sterling worth, eminent scientific attainments, and surprising energy and enthusiasm forced the appreciation, the admiration, and the respect of all, friend and foe alike. We had the pleasure and the privilege of his acquaintance when a few years ago, he had come to Calcutta to stir up the non-official profession here to agitate for removal of their just grievances. We were quite charmed with the mastery of the English language and the vast store of information touching our profession which he displayed both in conversation and in public addresses. He was not a bigot but a man of catholic views, and we could not help taking him for a brother and a colleague. It is with melancholy pleasure and out of respect for departed worth that we place before our readers the following brief notice of his life, for the materials of which we have to acknowledge our indebtedness to the *Bombay Gazette* of 16th August last and to the ready kindness of our esteemed friend, Mr. R. D. Mehta, C.I.E.

Dr. Kaikhoshrow Naorojee Bahadurjee was born in his ancestral house in Urma village in the Surat district on the 10th Nov. 1860. He received his elementary education in the Proprietary High School and St. Xavier's College, of Bombay. He passed the Matriculation (Entrance) Examination of the Bombay University in 1878, and F. E. A. in 1880. He failed to obtain the B.A. degree of that University, but succeeded in gaining the Gilchrist Scholarship in 1882 which enabled him in the same year to proceed to England and enter the University College, London. Here he studied science under eminent professors; and having previously acquired a knowledge of Latin at St. Xavier's College of Bombay he found no difficulty in passing the M.B. examination of the London University, and was placed in the first class, and obtained double honors. Surgery, Forensic Medicine, and Mental Diseases were the subjects to which he paid the greatest attention. About the same time he passed the examination necessary to become an M.R.C.S. The trustees of the Gilchrist Fund

very generously granted him a year's extension of time for holding the scholarship, and allowed him a gratuity of £75 as a special encouragement to further prosecute his studies in Pharmacology with a view to make original researches. To carry out this object he next went to Berlin, and completed courses of study at the Laboratories of Professor Liebig and of Dr. Koch. The result of his studies at Professor Liebig's Laboratory was published at the time in the pages of the *British Medical Journal*. He also passed the B.Sc. Examination, and received special prizes and medals for proficiency in certain special subjects. He was the first native of the Bombay Presidency to obtain the M.D. degree of the London University.

On his return to Bombay, Dr. Bahadurjee found a great patron in Lord Reay, then Governor of Bombay, who nominated him a fellow of the Bombay University, and appointed him an extra Professor of Clinical Medicine and Pharmacology in the Grant Medical College. He was also placed in charge of the Framjee Dinshaw Petit Laboratory to enable him to engage himself in original medical researches. This charge he held only for three years. After Lord Reay's departure from India his connection with the Laboratory and the Grant Medical College had to be permanently severed. For though the Gaekwar of Baroda and Mr. Dinshaw Petit offered to place at the disposal of the authorities sufficient funds out of the interest of which the expenses of Dr. Bahadurjee's researches could be met for five years, this generous offer was declined by the Government of Lord Reay's successor, and the promising career of the youthful doctor as an original investigator came to an untimely end.

In 1890 Dr. Bahadurjee sustained serious injuries by a fall from his horse, and this accident put a temporary stop to his career of improvement and usefulness. In 1892 he attended the Congress of Hygiene and Demography held in England, as a delegate from the Millowners' Association, and succeeded in putting down the agitation raised in the interest of Lancashire at the alleged inhuman treatment of mill-hands in Indian Mills, and in proving satisfactorily that the alterations proposed in the Indian Factory Act would operate injuriously on Indian Cotton manufactories, and would be detrimental to the interests of the industry in this country. The services he rendered on this occasion were publicly acknowledged by the Millowners' Association and other bodies.

On his return from England, Dr. Bahadurjee was elected President of the Bombay Medical Union, and also of the Medical and Physical Society for two years. He also filled for the same period the chair of Syndic of Medicine in the Bombay University, and succeeded in introducing a better system of instruction in Physiology and Pathology in the Grant Medical College. As a member

of the local Municipal Corporation he was instrumental in inaugurating many improvements. It is not a little remarkable that he was strongly opposed to the establishment of a Pasteur Institute in this country. His services to the cause of the native medical profession have already been noticed.

Dr. Bahadurjee's latest services were those which he rendered to his own co-religionists, as honorary physician to the Parsee Fever Hospital during the prevalence of the plague epidemic, which has not yet ceased altogether. These services were recognised at a public meeting held in the Sir Jamsetjee Parsee Benevolent Institution about the middle of November 1897, when he was presented with a silver vase and a tea-set. The following extract from the reported speech of Sir Jamsetjee Jejeebhoy, will shew the nature of the services thus rendered :—

“Dr. Bahadurjee commands an extensive practice in our city owing to his medical acquirements of a superior kind—the very fact that such a gentleman was at the head of our hospital had given great confidence to us all. When there was panic all round, Dr. Bahadurjee offered his kind services to us, and set to work with great courage and a calm mind in a way reflecting great credit upon him. When the plague was raging furiously he spent every day many hours at the hospital. He did not rest satisfied with simple medical aid, but the very fact that the hospital work went on regularly as clock work was due to him.”

Dr. Bahadurjee fell a victim to his devotion to duty. For though taken ill after a journey from Poona he did not cease for ten days to attend to his usual avocations till he was obliged to take to his bed on Thursday the 10th August. How serious his illness was, will be seen from the fact that on the afternoon of the following Monday (15th) he breathed his last. “Oh ! why has worth so short a date, while villains ripen grey with time ?”

REVIEWS.

A Repertory to the Cyclopædia of Drug Pathogenesis. Compiled by Richard Hughes, M.D. Part II. Eye—Ear—Face—Digestive System. E. Gould and Son. London, 1898.

WE owe an apology to the author for not noticing this the second part of his Repertory earlier. We received it on the 25th of July. It must have issued from the press in the last week of June, that is, within ten months of the issue of the First Part. This is not a long time, indeed, it is comparatively a very short time, between the issue of the two parts, considering the arduous critical labor which Dr. Hughes had to bestow upon the work.

In the part before us the index to the symptoms of the Eye, which was begun in Part I., has been completed, as also the

indexes to the symptoms of the Ears and of the Face. The indexing of the symptoms of the Digestive System has been begun. The following parts of this system have been done—the Jaws, the Lips, the Teeth, the Gums, the Tongue, the Salivary Apparatus, the Mouth, the Throat. The symptoms of the Stomach have been begun but not finished. The reader may miss the Nose, but as it belongs chiefly to the Respiratory System, it will come under that head later on.

So far as we have been able to judge, this the second part has been as well done as the first. But an editor is nothing if not critical, and we trust that the talented author will excuse us if we point out one minor fault. In our review of the first part we noticed, in the Schema, under the head of the Digestive System, the omission of the Œsophagus. Dr. Hughes has indexed the symptoms referrible to this portion of the alimentary canal under Throat. But the throat proper and œsophagus, though continuous one with the other, are in structure and function quite distinct, and therefore a separate heading for œsophagus would have been more proper and correct. We trust also that the Rectum and the Anus will be placed under the Digestive System as its natural continuation and termination, and removed from under the heading of Pelvic Organs, which, we must say, does not correctly define their functions.

If we are not mistaken in our calculation, four (and not two) more parts would be necessary to complete the work, and then we shall have a Repertory where every symptom may be relied upon. However much we may deplore the absence of symptoms obtained from the 30th dilution and from patients, it would be no ordinary relief to have the assurance that every symptom indexed is a genuine one. And for this we shall have to thank Dr. Hughes for his conscientious and indefatigable labors.

Essentials of Homœopathic Therapeutics; being a Quiz Compend of the Application of Homœopathic Remedies to Diseased States. A Companion to the *Essentials of Homœopathic Materia Medica*, arranged and compiled especially for the use of Students of Medicine. Second Edition, Revised and Enlarged. By W. A. Dewey, M.D. Boericke and Tafel, Philadelphia, 1898.

In our review of the first edition of this charming little work we expressed the hope that that edition would soon be exhausted as it deserved to be. That hope, we are glad to see, has been fulfilled. Within three years there has been a call for a second edition, and the author may well congratulate himself that his work has "actually found the place in homœopathic literature for which it was designed."

The author has anticipated and met the charge of favoring

routine practice, than which nothing can be more disastrous in homœopathy, by the following observation : "While its title is *Therapeutics*, it should be looked upon by the student simply as *Materia Medica* in another form. If this be done there is little danger of the student falling into the practice of the ancient school of associating remedies with diseases, or diagnosis with treatment."

We are assured that "not only has the work been thoroughly revised and numerous errors which appeared in the first edition corrected, but also the size has been necessarily increased by the addition of many characteristic indications." While we cordially endorse what is here said as correct, we cannot help remarking that there is yet considerable room for improvement. When noticing the first edition we gave the therapeutics of Mumps as a sample of the way in which the work was compiled, and we observed that "we miss (in this specimen) three most important drugs, Hepar Sulph., Silicea, and Lachesis, which are often indicated in this affection not only by virtue of their general symptoms, but also and chiefly by virtue of their specific action on the parotid gland; and their omission, therefore, cannot be accounted for in the way the author has done in the case of the omission of Arsenicum in Pneumonia. Of course it is not to be expected, nor is it desirable, that all the drugs indicated in each diseased condition should be given in a compendium intended for students; but surely, in order that such a compendium may be useful at all, no important drug should omitted. The bulk of the book would certainly have been increased by this mode of treatment, but in our opinion, considerations of utility should not have been subordinated to those of size."

It is, we must say, somewhat disappointing that while the author has bestowed so much care in revising the work, he should have left the therapeutics of Mumps and of many other diseased states in the same imperfect form in which they stood in the first edition. He is evidently afraid of making any notable increase in the size of the book, but we think the student would not mind the enhanced price that would necessarily follow increased size if they are assured that they will thereby get a more complete help in the study of the therapeutics of diseased conditions.

The plan of the work is excellent. It is useful not only to the student but to the busy practitioner as well. It has created a demand which will go on increasing. The author will have to bring out many editions, and in doing so he will have to enlarge it in the way suggested by us. Ten years hence, we predict, it will attain to double its present size.

EDITOR'S NOTES.

Congenital Diaphragmatic Hernia in Pregnancy.

Keim, Rosenthal, and Huguier (*Progrès Méd.*, June 4th, 1898) showed at a recent meeting of the Obstetrical Society of Paris the organs of a patient who had died at the fifth month of pregnancy from dyspnœa and hæmatemesis. There was a congenital diaphragmatic hernia on the left side. The stomach and most of the intestinal coils were in the left pleural cavity; the heart lay on the right side, and the left lung was rudimentary. The authors pointed out that while pregnancy might exercise a beneficial effect on external hernias, such as femoral and inguinal, it had sometimes an opposite effect on internal ones.—*Brit. Med. Journ.*, Sept. 3, 1898.

Repeated Extrauterine Pregnancy.

* Dorland (*Amer. Jour. of Obstet.*, April, 1898) records a case of this rare condition. The first tubal pregnancy occurred on the left side, in a patient aged 28, who had had four children, the eldest 6 years, and the youngest 15 months. She was operated upon at about the seventh week, and the embryo was found within the tube. Her second tubal pregnancy occurred twenty months later, on the right side. At the operation the condition was found to be an instance of Bland Sutton's tubal abortion. Dorland has found that sixteen cases besides his own are on record, including one just lately reported by Schoolfield. He gives complete references.—*Brit. Med. Journ.*, Sept. 3, '98.

Surgery among Birds.

Some interesting observations relating to the surgical treatment of wounds by birds were recently brought before the Physical Society of Geneva, by M. Fatio. He quotes the case of a snipe, which he has often observed engaged repairing damages. With its beak and feathers it makes a very creditable dressing, applying plasters to bleeding wounds, and even securing a broken limb by means of a stout ligature. On one occasion he captured a snipe which had on its chest a large dressing composed of down taken from other parts of the body and securely fixed to the wound by the coagulated blood. Twice he had brought home snipe with interwoven feathers strapped on the site of fracture of one of the limbs.—*The Clinique*, Aug. 1898.

Second Cæsarean Section on a Rachitic Patient.

Lambinon (*Journal d'Accouchements*, March 27th, 1898) records a case in which Charles operated twice on the same patient. The same operator delivered another patient three times by the same method. He advocates Cæsarean section in contradistinction to hysterectomy in these cases, and has performed in all nine Cæsarean sections, with the result of saving the nine mothers and the nine children. The author believes it always to be advisable to await the onset of labour before operating, since natural dilatation of the cervix favours the discharge of the lochia. It is an advantage during the operation to bring the uterus out through the abdominal wound to facilitate the Cæsarean

section and the suture of the uterine wound. After removal of the after-birth the decidual membranes should always be removed. If Säger's sutures be used, a perfect cicatrix is formed and catgut is not essential.—*Brit. Med. Journ.*, Sept. 3, 1898.

Precocious Puberty.

De Vlaccos (*Ann. de Gynéc. et d'Obstét.*, March, 1898) gives a full report of a distinct instance of this phenomenon, with a photogravure of the patient. She was born in August, 1892, and has all the appearance of a child aged 10, excepting that as far as the genital and mammary regions are concerned she is yet more developed. In height she measures 3 feet 8 inches; her weight is 3 st. 8 lbs. The hair of her head is very abundant, whilst her intellectual development is not above her years. When six months old a bloody vaginal discharge was noticed, and it returned in about six weeks. The interval steadily became shorter, and now the catamenia are monthly, lasting for about four days, the child becoming depressed in spirits at each period. The mammae resemble those of a girl of 17, and not only has hair grown on the pudenda, but much subcutaneous fat has developed in the region of the thighs and nates as normally occurs at puberty.—*Brit. Med. Jour.*, Sept. 3, 1898.

Congenital Facial Paralysis.

At the recent Congress of Physicians in Hamburg Dr. Nonne related the case of a child, two years of age, who had suffered since birth from the signs of right-sided facial paralysis. The labour was normal and no artificial aid was necessary. The deformity of the face was noticed as soon as the child cried. Syphilis and alcoholism in the parents could be excluded and no anomaly could be felt in the parotid region of the affected side. The child heard equally well on each side and no abnormality of the ears was apparent. There was no affection of any other cranial nerve, and mentally and physically the child seemed perfectly well but for the facial weakness. In the region of the forehead, eye, and cheek the electrical reactions seemed to be quite abolished; but in the quadratus menti and the orbicularis oris on the affected side a strong current evoked a slight contraction. Dr. Nonne was of opinion that the defect depended upon some lesion of the facial nucleus, possibly as Moebius and others have conjectured some congenital anomaly of the ganglion cells, and the prognosis as regards any improvement was distinctly bad.—*Lancet*, Sept., 10, 1898.

The Great Telescope for the Paris Exhibition.

We gather from an article in *La Nature*, August 27, that M. Gautier, the well-known optician, is making good progress with the construction of the giant telescope intended for the Great Exhibition at Paris in 1900. The aperture will be 1.25 metres (49.2 inches), and the focal length 60 metres (196 feet 10 inches), while the estimated cost is 1,400,000 francs. An equatorial mounting and dome for such a gigantic instrument may well be considered impracticable and accordingly the telescope itself will be rigidly fixed in a horizon-

tal position on supports of masonry, and will receive the light of the heavenly bodies after reflection from a movable plane mirror 2 metres in diameter. The plane mirror is 13 inches thick, and weighs 3600 kilogrammes; and it is curious that of twelve discs cast for the purpose, the first one turned out to be the best. This has been in process of grinding for seven months, and is not yet finished.

There will be two objectives, one photographic and one visual, which will be easily interchangeable at will. It is expected that a magnifying power of 6,000 will be usefully employed, and that occasionally a power of 10,000 may be used. As the highest power available in the largest existing telescope does not exceed 4,000, the new instrument, if it be the success that every one will wish, should have a wide field of usefulness.—*Nature*, September 1, 1898.

Therapeutic Action of Air on Serous Membrane.

BRIAL has collected (*Thèse de Bordeaux*, 1898) a large number of cases illustrative of the admission of air into serous cavities as a therapeutic agent. The most numerous cases refer to the injection of air into the peritoneum in cases of tuberculous disease of that organ, and the writer brings out several interesting details in support of the well-known fact that tubercular peritonitis frequently retrocedes on the admission of air into the peritoneal cavity. This method has also been tried in cases of ascites following on cirrhosis, and the writer quotes several unpublished instances occurring in the practice of Picot, Cassaot, and others, in which, though not followed by cure, the cases certainly showed no return of the fluid, and it is suggested that this fact might be made use of for retarding the progress of the disease and preventing the drain on the constitution due to the constant effusion of fluid. Air has also been injected into the pleural cavity under certain conditions, such as pneumothorax, etc., with a certain degree of benefit. Lastly, it has been tried in the tunica vaginalis in cases of hydrocele, but the result was quite unsuccessful. Consequently, the method only seems to apply to the peritoneum and pleura. As regards methods, the air should be sterilised and the quantity should not be excessive.—*Brit. Med. Jour.* Sept. 17, 1898.

The Relation of the Physician to the Patent-Medicine Vender.

According to Dr. D. M. Greer (*Med. Age*, Vol. XVI, No. 9, 1898), there are two classes of patent-medicine venders: First, those who use the druggists as tools, and push their sealed packages upon the market through them; and second, those so-called manufacturing pharmacists and so-called chemical companies who use the physicians for the same purpose, viz., those who advertise through the physicians.

Through the first class the pharmacist has been reduced to a patent-medicine dealer, and the pharmacy turned into a patent-medicine shop; while the physician, through the efforts and push of the second class, is fast becoming a patent-medicine pedler.

There are some doctors who try almost every medicine they see advertised, or with which they are sampled. Many of them are

ready to give testimonials of the wonderful effects, if their patients happen to survive. Some are willing to testify if their names can be printed on circulars and sent broadcast over the country.

Is it not time, the writer asks, that physicians should heed the warning which they have in the condition of the druggist, and be more careful about prescribing some one's tablets or mixtures? Otherwise they will eventually be obliged to buy a large satchel and stock up with much-vaunted "cure-alls" and thereby become patent-medicine peddlers, pure and simple.—*Am. Med.-Surg. Bulletin*, Aug. 25.

Does Decapitation Cause Immediate Unconsciousness.

The executions in Paris during recent years have revived the old question whether death instantaneously follows upon the severance of the head from the body (*Mass. Med. Jour.*). Dr. Cinel asserts that decapitation does not immediately affect the brain. He says that the blood which flows after decapitation comes from the large vessels of the neck, and there is hardly any call upon the circulation of the cranium. The brain remains intact, nourishing itself with the blood retained by the pressure of the air. When the blood remaining in the head at the moment of separation is exhausted, there commences a state, not of death, but of inertia, which lasts up to the moment when the organ, no longer fed, ceases to exist. Dr. Cinel estimates that the brain finds nourishment in the residuary blood for about an hour after decapitation. The period of inertia would last for about two hours, he thinks, and absolute death would not ensue till after the space of three hours altogether. If, he adds, a bodiless head indicates by no movement the horrors of its situation, it is because it is physically impossible that it should do so, all the nerves which serve for the transmission of orders from the brain to the trunk being severed. But there remain the nerves of hearing, of smell and sight, and he concludes that the guillotine does not cause instant death. If this be true, could any other form of death be more merciless.—*Medical Times*, Sept. 1898

The Dangers of the "Dry Cleaning Process."

The extreme care with which easily inflammable liquids should be handled was exemplified some time ago in the case of a paraffin hair-wash. This unfortunate occurrence, which resulted in the death of a lady from shock and burns, would appear to have been due to the ignition of benzine by the production by friction of an electric spark. It is well known that when the air is particularly dry the production of an electric spark, say by stroking the hair or by rubbing flannels, is a very simple matter. Under the very dry conditions of the atmosphere there is a strong tendency for opposite electrical conditions to exist on the slightest provocation. This probably accounts for a somewhat remarkable accident which occurred in a "dry-cleaning room" at Ashton. Some workmen were engaged in cleaning by the dry process certain garments such as pants and vests. During the rinsing process a flash suddenly occurred in the "rinse kettle." "It was a bright flash like lightning. Then everything became one mass

of flame, the spirit, garments, and everything." The fire extended and one man unfortunately lost his life. The witnesses were one and all positive that the flame had its origin in the "rinse kettle" and every precaution was taken to exclude any possibility of ignition from naked flames or from lighted tobacco pipes. The igniting cause was probably, therefore, an electrical phenomenon and it only remains to suggest that when the weather is remarkably dry the air in dry-cleaning workshops should be kept moist by suitable means and extra care should be taken to avoid friction in the cleaning process.—*Lancet*, Sept. 17, 1898.

A Hygienic Decalogue for the Consumptive.

The *Practitioner* for September cites the following verses from a French medical journal, of which a translation is subjoined :

Tonjours air pur respireras
Dès le début du traitement.

A l'air libre t'exerceras
Pour te guérir promptement.

Qu' uniforme soit le climat
Est précept très important.

Par le temps frais tu porteras
Des habits chauds suffisamment.

Avec Phœbus te lèveras
Te coucheras pareillement.

Travail quelconque tu ne feras
Qu'en dehors de l'appartement.

Jamais de part ne prendras
Qu'aux jeux le thorax dilatant.

D'être propre il t'importera
En toute chose absolument.

Des précautions tu prendras
Contre le refroidissement.

Vénus tu ne fréquenteras,
Mais mangeras abondamment.

Thou shalt, from the beginning of treatment, breathe pure air. Thou shalt take exercise in the open air, in order to be cured promptly. Let the climate be uniform, is a very important precept. In cold weather thou shalt wear sufficiently warm clothes. Thou shalt rise with the sun and go to bed with him. Thou shalt not do any work except out of doors. Thou shalt take only to those sports which expand the chest. Thou shalt be neat and clean absolutely in everything. Thou shalt take precautions against being chilled. Thou shalt not associate with women, but thou shalt eat abundantly.

Neutralisation of Toxins by the Digestive Secretions.

Nencki, Sieber, and E. S. Simanowski (*Centralbl. für Bacteriol.*, 19-20, 1898) state that most toxins and antitoxins appear inert when

introduced into the stomach or rectum, and they do not pass unaltered through the alimentary tract, as neither urine nor feces contain any part of them after the experiment. Emulsions of stomach, and of small and large intestines of rabbits and guineapigs, carefully filtered will, when mixed with the diphtherial toxin in varying proportions, generally neutralise the same. The emulsion of small intestine is the most efficacious. It owes its efficacy to the pancreatic juice. This secretion will neutralise the diphtherial toxin at the temperature of the room, but better still in the incubator; 1 g. of the secretion will neutralise 10,000 times the fatal dose of the toxin. The gastric juice is less active. This difference in activity does not depend on acidity or alkalinity. Watery pancreatic extracts are equally efficacious. As regards the tetano-toxin matters are reversed, the gastric secretion producing the strongest neutralising effect, similarly the bile if mixed with the toxin in the right proportion. Bile when mixed with pancreatic juice is more powerful than when employed by itself. The longer the various secretions remain mixed with the toxins prior to injection, the more powerful is their neutralising effect. The juices neutralise but do not render immune, for if juices and toxins be injected separately the action of the latter is not interfered with; in other words, the enzymes must have the opportunity of acting directly upon the toxins in order to neutralise them.—*Brit. Med. Jour.*, Sept. 3, 1898.

The X-Rays in War.

Among the wonderful achievements of the X-rays there is none more beneficent than its banishment of the deadly probe from the treatment of gunshot wounds, as illustrated in the present war.

Though shorn of some of its terrors by the use of antiseptics, the probe is a thing of the past. Its use on the battle-field is forbidden, and in the hospital it is rendered unnecessary by the employment of the X-rays.

This renders possible, also, what seems to us an ideal treatment of many injuries received in battle, viz., the immediate application of an antiseptic occlusive dressing, which need not be removed unless demanded by later symptoms. Nature is given a chance, and meddling surgery will have fewer victims, and the wounded more limbs to carry home with them. Had the same principle been in vogue during our last war, our pension indebtedness would not be so large.

It is the common feeling among the laity that the oftener a wound is dressed the better for the patient; but modern surgery does not countenance such an idea, and, after rendering a wound aseptic, is content to await developments. During and after a battle, apart from the acknowledged good results following this line of apparent inaction, the economy of time and labor which can be devoted to cases imperatively demanding other treatment is no small consideration.

The beautiful law of compensation is again illustrated in this, that while the instruments of warfare are constantly sought to be made more and more deadly and destructive, the use of antiseptics and of the X-rays becomes known in order to counterbalance their effects.—*Hahnemannian Monthly*, Sept. 1898.

Pin in the Rectum for Thirty Years.

Dr. W. Dutton Akers, has published the following very interesting case in the *Lancet*, for Sept. 10, 1898.

A man, aged fifty-eight years, a linendraper consulted me with a view to obtaining relief from the following symptoms. He had pain in the rectal region of a pricking character on sitting down, constant desire to defecate, great pain on doing so, and the motions were small, pipe-like and streaked with blood. These symptoms had been present with more or less intensity for a period of thirty years; he had frequently sought medical aid, and the treatment generally took the form of morphia suppositories or other local applications. Examination revealed the presence of external hæmorrhoids, and digitally considerable induration and inflammation of the mucous membrane covering the internal sphincter was detected. Above and at the right side of the internal sphincter the head and about half an inch of the body of a pin were to be felt, the head projecting upwards and somewhat across the lumen of the intestine. With the aid of a pair of long dressing forceps introduced by the side of the examining finger the pin was pushed into the rectum, rotated, and then extracted head foremost. Thanks to the pluck exhibited by the patient I was enabled to carry out the painful manipulation without an anæsthetic. The removal of the *fons et origo mali* was followed by a rapid subsidence of the symptoms which had prevailed for so many years. This case illustrates the great importance of making a careful examination of the rectum in such cases. I suspected carcinoma and found an easily removeable pin. The patient was unable to account for the pin, but his occupation is a sufficient explanation.

Extrauterine Pregnancy at Full Term.

SWIFT (*Boston Med. and Surg. Journ.*, May 12th, 1898) reports a case of this rare condition. The patient, aged 34, had been married eighteen months. Three years before, she had had some pelvic trouble, which was called ovaritis, and confined her to bed six weeks. Last regular menstruation was January 21st, 1897. The February period was only a slight show, symptoms of pregnancy beginning at about the same time. On March 26th she had a sharp attack of pain in the abdomen, resembling the former attack of ovaritis, and she was miserable for six or eight weeks. There were no symptoms of collapse with this attack, but a good deal of nausea, attributed to the pregnancy. She was first positive of feeling motion in July, and this grew stronger up to November 19th, since which time it had entirely ceased. During the last two months the motion was said to have been very violent, and she thought the child at times must have been in convulsions. This motion was perceptible to friends through her clothing, and when lying in bed would move the bedclothes. The fetal heart sounds had been heard from time to time by her physician. On November 19th, at the closet, she felt a sudden gush of warm fluid from the vagina; there was no appearance of blood. Throughout the rest of the day there were regular but

not severe pains. After that, all motion of the child ceased, and she noticed that she was getting smaller. The breasts became hard, large, and painful, and then gradually subsided. A week later her physician called, and diagnosed the death of the child. After waiting a week, there being no sign of labour, he inserted a catheter into the uterus with the idea of inducing labour, but, this not being effected, Swift was called in to empty the uterus. He diagnosed extrauterine gestation, with pseudo-labour and death of the child; and advised waiting, to minimise the chances of hæmorrhage from the placenta. On January 3rd, 1898, he operated. The child was easily delivered; in one place the side of the head was firmly adherent to the sac which was attached to the intestine. The placenta was only attached to the upper edge of the broad ligament, probably the tube, for this could not be distinguished except where it left the uterus, and here it was much thickened. The patient made a good recovery.—*Brit. Med. Journ.* Sept. 17, 1898.

The Treatment of Elephantiasis by Electricity.

In *La France Médicale* of June 24th, 1898, Dr. Albert Weil has published a case of elephantiasis in which remarkable result was obtained by galvanism. An obese washerwoman suffered from extreme elephantiasis of the legs which had developed gradually during twenty-seven years. The circumference of the left leg measured 57 centimetres and of the right leg 55 centimetres and patient weighed 128 kilogrammes. Bandages were used, but without effect. A constant current to the left leg was then tried. Two metallic electrodes covered with chamois-leather measuring 16 by 26 centimetres bent into half cylinders were applied to the leg so as to cover more than the lower half, and connected with the negative pole of a battery. The positive electrode, which was 10 by 26 centimetres, was placed on the nape of the neck. A current of 20 milliamperes was passed for a quarter of an hour and the leg was then compressed with a bandage. The right leg was similarly bandaged. This treatment was repeated at intervals of two or three days with currents ranging up to 50 or 60 milliamperes. On the fifth day the left leg measured 54 centimetres, on the twelfth 53 centimetres, on the seventeenth 50 centimetres, and on the thirty-third 45 centimetres, when elastic bandages were substituted for the cotton ones and applied to both legs. In a fortnight the left leg measured 40 centimetres and the right 54 centimetres (a slight diminution). A constant current was then applied to both. After twelve days the measurements were 38 centimetres and 50 centimetres. Finally they were reduced to 38 centimetres and 40 centimetres, and the patient could walk and, except for some slight swelling at the external part of the ankles, was practically cured. Electricity in the treatment of elephantiasis has been recommended by several writers, especially and in repeated publications by two Brazilian medical men—Silva da Aranje and Moncorvo. But its use has not become general. Elastic bandages often give brilliant results. Though Dr. Weil appears to have pro-

duced quite cogent evidence of the value of electricity in his case it would have been more satisfactory if he had elastic bandages before resorting to that treatment. His explanation of its mode of action is that it facilitates the movement of lymph by exciting contractions of the lymphatic vessels. The interrupted current, which would seem more effectual than the constant for this purpose, is recommended (in addition to the latter) by the Brazilian writers, but for some reasons it was not employed by Dr. Weil.—*Lancet*, Aug. 27, 1898.

Quinine Hæmoglobinuria.

Murri (*Arch. Ital. de Biologie*, Tome xxviii., fasc. iii., 1897) reports a case of this affection. A girl, aged 17, contracted tertian ague in July, 1898. In spite of treatment she was not cured in January, 1899, and was still taking quinine. At that time she had an attack of ictero-hæmoglobinuric fever directly after taking quinine, and subsequently whenever quinine was taken such an attack was observed, consisting in rigors, vomiting, followed by smoky urine, and lastly jaundice. The spleen became larger and firmer, and sometimes the liver enlarged also, with hypochondriac pain. At the beginning of an attack there was simple polyuria, then from being acid the reaction became alkaline, and lastly, peptone, serum albumin, globulin, hæmoglobin, and urobilin, hyaline casts, epithelial renal cells, and leucocytes, but no red corpuscles or bile pigments, appeared. After an attack the above all disappeared, the serum albumin and peptone last. An examination of the blood showed there was a diminution of the number of red corpuscles, but the malarial parasite could never be found. In spite of this effect of quinine it had its usual influence in prolonging the interval between the attacks of true malaria. The author gives reasons for believing that quinine hæmoglobinuria occurs only in those whose organs have been altered by malaria, quinine alone being insufficient to produce it. (1) For 20 years he has been trying to produce quinine hæmoglobinuria in animals without success. (2) In a healthy man 75 or even 300 gr. of quinine produce no hæmoglobinuria, while in this girl, after malaria, 1.54 gr. did with absolute certainty. (3) No case of quinine hæmoglobinuria has been reported which was not complicated by malaria. (4) The proof that one has not to do with an idiosyncrasy in a person with whom malaria is a coincidence is furnished by the fact that quinine intoxication appears in most cases; sometimes after a good many doses have had to be taken—that is, after the malarial poison has had time to act on the organism, but not before. (5) It is not produced by an intolerance gradually set up by repeated doses of quinine, for large and repeated doses are often given in non-malarial diseases, and yet not a single case of quinine hæmoglobinuria has been reported in these. (6) This hæmoglobinuria is almost unknown in Europe, except in Sicily and Greece, and becomes relatively frequent in extra-European countries where malaria is more virulent. (7) The author's patient had three ictero-hæmoglobinuric attacks after the malaria was cured, and without any quinine having been given. This shows that the hæmoglobinuric mechanism had become so easily set in motion that its usually specific stimulus (quinine) could be replaced by others, though exactly

what these were could not be discovered. It seemed as though the biological change left in the patient by malaria would not be permanent, for some months after the patient had been cured of her malaria and had had no quinine attacks, a little over $1\frac{1}{2}$ gr. of quinine given experimentally had very little effect, and even $7\frac{3}{4}$ gr., though causing intoxication (fever, albuminuria, peptonuria, and urobilinuria), produced no hæmoglobinuria.—*Brit. Med. Jour.*, Aug. 27, 1898.

CLINICAL RECORD.

Indian.

A Case of Paralysis of muscles of the Neck cured by Lycopodium.

A Hindu male child, aged 4, was brought to me on the 10th September for Nasal Voice. The child was suffering from this symptom for about a month since his recovery from a bad attack of fever. On examination the uvula was found to be rather long and relaxed. On inquiry I learned that drinks, not solid food, return by the nose. The patient was lean and emaciated, but was free from fever and had no other organic disease. An old school doctor had diagnosed ulceration of the floor of the posterior nares and had feared perforation of the soft palate. He was placed under a homœopathic practitioner, who treated him with *Caust.* 6 for a fortnight but without any benefit. I gave him some globules saturated with *Merc. s.* 6, two to be taken for a dose, twice a day.

The child was brought to me on the 24th, that is, after six days' use of *Mercurius sol.* There was complete disappearance of one symptom, "return of drinks by the nose," but the nasal voice was not a whit better. I gave him *Aurum met.* 10x, globules, to be used in the same way as the first medicine.

28th. The child was brought, as usual, in the morning. The voice was much improved, the nasal twang being less; but a new and most alarming symptom had developed itself—the patient could not keep his head erect. There was evident paralysis of muscles of the neck, more of the right side, as the head fell more towards the left side. Thinking this might be due to *Aurum*, I discontinued the medicine, and gave some *nihilum* globules. The child was brought on the following day, the 29th. Nasal voice quite gone, but paralysis of muscles of the neck rather worse. Gave *Lycop.* 30 gles..

1st Oct. Was glad to see that the child could keep his head erect pretty well. The medicine was repeated, and in the course of a few days, the grave symptom of paralysis of the neck disappeared.

Remarks.

This case affords a beautiful verification of a pathogenetic symptom of *Lycopodium*, which is thus recorded in the *Chronic Diseases*: "A sort of paralysis of the cervical muscles, the head sank down forwards more and more, as if it would fall off" In our case the tendency of the head was to fall more to the left, than to any other side; and yet *Lycopodium* removed the symptom, showing that the drug does produce paralysis of the muscles of the neck, and it is immaterial on which side the paralysis may be predominant. This

symptom of *Lycopodium* was furnished by Hahnemann, and however obtained, whether with the 30th dilution on a healthy subject, or simply as a removed clinical symptom, there can be no question that it is a genuine symptom. This shows how unwise it is to reject all the symptoms of the *Chronic Diseases* which have been furnished by its author.

Foreign.

Two Cases of Neuralgia.

By A. MIDGLEY CASH, M.D.

Mrs. P., aged 60, in course of influenza attack began to feel slight stabbing in left parietal eminence. This increasing in severity I gave her gelsem. No relief. Pain increased. Thinking it might be caused from pure debility, as she was greatly reduced by long continued illness, arsen. 3x was then tried. She now suffered 19 hours of acute agbny, during which pain spread over the left side of the head, it was "boring and often seemed like something screwing into the skull," the area of its greatest intensity was about size of crown piece, and from this it seemed to radiate over whole of side of head. No fever: face pale and wan, pain increased by touching place, or movement. Several external remedies which she had formerly found useful were tried with effect of aggravating the pain and a glass of hot port wine increased it so that she became almost frantic. A hypodermic injection of morphia seemed inevitable, but first I mixed her some spigelia 1x. in water and gave a teaspoonful every hour. This touched it, at the first dose great relief was felt, and I saw her some hours later, she had had some quiet sleep. All acute pain gone, and only an occasional twinge was felt.

Miss C., aged 56, a stout, semi-hysterical invalid, sent for me for a severe attack of facial neuralgia, affecting the left side, chiefly in the jaws and temple. The pain was "jerking." Hot applications gave no relief, but cold certainly caused some amelioration of pain. The cause was evidently dental, several loose and decayed teeth being in lower jaw. Pulsatilla was indicated, and I gave it in 3x, a dose every two hours. Shortly after commencing the medicine she had a severe paroxysm of pain, the worst she had yet felt; thereafter she experienced great relief, and at the next visit had nothing further to complain of.—*Monthly Homœopathic Review*, Sept. 1898.

Two Cases of Convulsions in Infants cured by Circumcision.

By ALEXANDER A. CROUCHER, M.D. Edin.

CASE I. R. K. was born hurriedly on April 10th of this year. The first place he made his acquaintance with was a water closet. However, he appeared to have sustained no serious injury, beyond a slight bruise on the forehead. He remained well until a fortnight after his birth, and then I ceased attendance. Five weeks later, the mother consulted me about the infant. The day after I ceased attendance convulsions began, his eyes turned up, he had strabismus, his

legs were drawn up and his hands clenched; there were general clonic spasms. These attacks lasted one or more minutes, and got so much more frequent that on June 9th he was having 12 or more attacks daily. On June 12th he was circumcised; he had one severe seizure 20 minutes after the operation, it proved to be the last, and he is now in excellent health.

CASE II. A. T. C. was born on April 30th of this year. He was a healthy infant, but was fretful, and seemed uncomfortable; this was not put down to any particular cause, but there being phymosis, it was intended to circumcise him as soon as he was settled with his feeding arrangements. However, the performance of the needful operation was accelerated; for on May 5th, at 1-30 P.M., the child had a convulsive seizure of short duration; another attack occurred a few minutes later, in fact he hardly seemed to emerge from it, for there was a continued laryngeal stridor going on. At 3-30 P.M., circumcision was done; he had three or more convulsive attacks, and the stridor was continuous till 4 A.M. on May 7th, when the last convulsion occurred; the stridor continued for most of that day and then ceased. This patient when six weeks old had a very severe attack of bronchitis, and for four days his life was despaired of. Dr. Roberson Day kindly came from London to see him and gave his valued advice, and the patient pulled through. I may mention that an inguinal hernia developed itself during this bronchitic attack, but has not troubled since.

It is also satisfactory to mention that although when vaccinated at the age of three months the arm "took well," and there was a good deal of erethrism; no return of convulsions occurred.

In Case I. I may add that an inguinal hernia also occurred after the operation, but from no obvious cause.—*Monthly Hom. Rev.*, Sept. '98.

A Case of Cataract cured by Zincum met 2c.

By FREDERICK WILLIAM PAYNE, M.D., BOSTON, MASS.

This case was that of a lady, 58 years of age. Striæ of opacity existed in both crystalline lenses, but the left one was so dense, and the visual acuity so greatly blurred, that it had become practically useless for vision, in consequence.

The history of the case showed a condition of inflammation of the choroid in the left eye, whereby a degenerating change had occurred in the crystalline, causing numerous and dense stripes of opacity in its cortex, with much haziness existing in the interstices between the radiating, dense striæ.

Her symptoms, all being referred to the left eye, consisted of a severe, bruised, sore, smarting, burning, itching and stinging sensation at intervals, coming suddenly, as if paper had been thrown into the eye causing great, and scalding lachrymation, much spasm of the lids, and general cringing therefrom; these spells occurred more markedly and more often in the evening. The eye and lid had spells of burning and dryness, so intense as to produce a feeling as if the eyeball was adherent to the eyelid, accompanied by a sensation as if a stick was under

the lid, scratching the eyeballs. Had spells of *flickering before left eye ; saw blue and green rings, floating in the left visual field ; a green halo is seen, at times, around the flame of the gas jet.* Although these objective symptoms might suggest a possible *tension* of the eyeball, such did not exist. A slight conjunctival irritation existed, with a tendency to agglutination. Eye symptoms were all markedly worse from warmth, from warm days, and by artificial heat, both of which caused an aggravation of all her symptoms. She was impatient, nervous, tremulous, all being aggravated by every mental emotion. A marked choreic condition existed, with jerking of individual muscles of the face, nose, ears, mouth, and sometimes of the arms, which latter symptoms necessitated much effort of the will to restrain, and which proved only partly successful. She had some jerking of the body during sleep.

The choreic expression was largely instrumental in calling my attention to *Zincum*, which proved also equally effective in clearing the advancing opacities in the lens substance, as well as curing the spasms of muscles. In six months, under an occasional dose of *Zincum 2c*, the right lens had become perfectly clear, and the vision in the left was markedly and steadily gaining. Her eyes had compound, hyperopic astigmatism ; the preponderance of astigmatic curve being vertical (90 degrees) in the right eye ; while in the left it proved exactly at right angle to this, viz., horizontally (180 degrees). Glasses were adjusted that exactly neutralized the refractive error, and proved a comfort in use. Eleven years later, the right lens was still fully transparent, and the left lens, though having a few dense streaks in its substance, had cleared so that large, perfectly transparent interstices existed throughout its area, that permitted entirely distinct and practical vision. Under the proving of *Zincum met.* are the following symptoms, viz :

The left eye is more markedly affected than the right, though both are influenced. Redness with intense burning, smarting, biting and itching, as from salt in left eye. Scalding lachrymation. Sensation as if eyelids adhered to the eyeball, and actually do so. Marked aggravation from all kinds of heat. Aggravation in the night. Mental symptoms of Zincum are those of nervousness, irritability, irascibility, and great impatience. Twitching of muscles, as well as jerking of various muscles. Choreic jerks through the body during sleep.

There are no symptoms under the proving of *Zincum* that refer to opaque lenses, and it is probable that a proving would not be voluntarily carried so far as to produce this great arrest of nutrition to the crystalline body, that would permit such an opacity to occur, hence always the importance to be ascribed to concomitant symptoms, both objective and subjective, to whatever part of the body they may be referred, in order to find for us the *simillimum* in every individual case, without regarding as of so much importance the *material expression, or result of disease*, as shown in *opaque lenses*, for instance.—*Hahnemannian Advocate*, Aug. 15, 1898.

Glennings from Contemporary Literature.**VITALITY :****An Appeal, an Apology, and a Challenge Addressed to Brother Practitioners.****By LIONEL S. BEALE.***(Continued from p. 238, No. 6.)*

ESPECIALLY in warm-blooded animals bioplasm loses its characters soon after death. It becomes liquefied, there being no doubt a minute conglulum at the moment which soon undergoes further changes. The fluid which constitutes the greater part soon permeates the tissues around and the water and dissolved constituents are diffused through the adjacent textures, which, of course, become flaccid and lose the firmness and resilience characteristic of them in the living organism and for a short time after death. Generally, the constructive and formative agency of bioplasm deteriorates if the bioplasm lives too fast—if the rate at which nutrition and multiplication proceed in the normal state of health is much exceeded—and if this increased rate of living does not soon cease all formative and constructive power is entirely lost, the rate of multiplication increases, and such is the intensity of the nutritive process that the living particles acquire yet increased powers of multiplication and may live at the expense of and destroy the very tissues which had been produced by the bioplasm from which they also traced their descent.

This same process of rapid growth and increased multiplication in low simple forms of life results in mere increase in numbers, though even in this case there may be some change—some deterioration in vital power. But generally in the case of the lower microscopic fungi and allied organisms favourable external conditions and plenty of nutrient matter cause greatly increased and more rapid multiplication only.

But in the case of man and many of the higher animals if the bioplasm of the tissues grows and multiplies, at a rate which considerably exceeds that which is normal, as occurs in "inflammation and fever," it very soon loses its tendency to produce bioplasts having normal formative power and soon "pus corpuscles" may result. Thus the vital biological process is soon replaced by a vital pathological process. So numerous are the bioplasts produced that they may fill the surrounding spaces amongst the tissues. Such phenomena are of great interest to us and illustrate principles in action through nature that deserve more consideration in pathology and medicine than they have yet received. The living descendants of normal bioplasts which had living formative capacity are represented by "pus corpuscles" injurious to the organism in which they originated. Evanescent and short-lived, they soon become a prey to bacteria and other low forms of life and are lost.

When, on the other hand, the bioplasm of our tissues lives too slowly a low kind of formed material is produced which in many characters departs from the normal standard. This may gradually accumulate so as to

interfere with action and in many cases with the removal of the substances formed during action ; and, again, a pathological change of a kind very different from normal biological changes and also from those resulting from living too fast is the consequence, but slow deterioration, and incapacity succeed.

In the lower forms of life, as in the case of the microscopic fungi, when the conditions are unfavourable and nutrition and multiplication proceed too slowly the bioplasm ceases to grow and much is converted into hard formed matter by which the speck of bioplasm that is left is protected from injurious influences and is thus enabled to live through a long continuance of adverse conditions. Not only so, but the living particle, however minute it may be, during its comparatively passive state seems to acquire and accumulate vast vital power of its low simple kind, for after living apparently dormant for months, when favourable conditions of temperature, moisture, &c., are established, the thick protective covering is soon softened and permeated by nutrient matter. The enclosed bioplasm soon increases, portions of it burst through the walls which enclosed it, pass out at any weak spots and soon gain the outside, when at once it lives freely, increases and multiplies exceedingly and in a wonderfully short time, and then growth and multiplication proceed in the usual manner.

Generally, the production of bioplasts which are to take part in the production of bioplasts which are eventually concerned in the formation of highly complex tissue and various formed substances, is a slow process. Vital phenomena requiring but a very small quantity of matter proceed in the bioplasm of every bud during a long time in the dark and cold part of the year, when as we say vegetation is at rest or asleep ; but all this time the bioplasm is gaining in power—vital power is as it were accumulating or concentrating. The early vital changes, and the arrangement of the bioplasts of the plant bud from which the tissues of leaves, flowers, and fruit are eventually evolved, is a slow operation indeed compared with the growth of these ; until the development of the bioplasts and their orderly arrangement are slowly completed active growth does not begin.

The evolution and development of the active part of the ovum and seed are slower and still more wonderful as regards the concentration of developmental and formative power not to be actively manifested until a considerable period of time has passed, the bioplasm of course being in living state and probably undergoing important changes during the whole time in preparation for the wonderful and often rapid increase and growth with which all are familiar.

According to the notions of our time we might say that we may hold alive in the palm of the hand the potential future forest. The potential part of the germ of animals and man having its wonderful powers of evolving many kinds of tissues and organs of great complexity and perfect action, is so minute that probably that of the largest organism that ever lived on earth or in the water was considerably less than the head of the smallest pin. Verily, it is indeed difficult to understand how anyone can regard

matter and its physico-chemical changes as all in all, and almost ignore the existence and operation of vitality that governs, directs, and determines the changes which the matter is to undergo.

That throughout living nature, from the time of the first appearance of life, all arrangements and actions of tissue, however complicated or inexplicable, have been a direct consequence of the influence of the vital power of the bioplasm and have resulted from changes before the formed material was produced and manifested its characters, may be regarded as certain. The facts prevent the acceptance of any other conclusion. Surrounding conditions undoubtedly exert a modifying influence, and in more than in one or two characteristics, but are incompetent to give rise to any vital changes whatever. They may check, stop, or, on the other hand, may facilitate the activity of vital phenomena. They may interfere with the completion of the series of already arranged-for changes. As some would say, external conditions may affect the evolution of an individual, a species or a race, and in many ways; and, on the other hand, may stop and indeed often do stop evolution altogether and put an end to life.

By studying the growth and arrangement of a tissue we may mentally trace the different stages of its formation, as it were backwards, until we reach the colourless, structureless bioplasm in which it originated—nay, when we see impression of its structure we may sometimes decide the general nature of, if we cannot actually identify, the organism from which it was derived, just as from the foot-marks upon a slab dug up yesterday after it had been lying buried undisturbed for ages we may feel sure as to the sort of foot which made the impressions at the time of a living world, very different from our life world, and of which but a few traces are still to be seen in a small number of living organisms of the living world of our time, so marvellously different from those referred to of past ages, though in unbroken continuity with it and at least certain forms of its far remote living matter. Not only so, but those familiar with anatomy and the structure of tissues may, from the character of the imprints, form some notion of the characters of the tissues of that primeval ~~world~~ of the muscles by which the toes were moved, the tendons by which they were connected with the bones, and the nerves distributed to the tissues. Further, the sort of legs, the body they supported, and even the habits of the creature and many other facts connected with its existence may be surmised. The minute structure of its tissues, the changes which occurred in their formation, the general character of its living matter, are now as certain as that the sun whose rays light our earth at this moment is the same sun that rendered possible those imprints made æons ago, and the reason becomes convinced that long ere those primæval times the same principles prevailed then as regards the vital phenomena of that so-called extinct living world as prevail now, and over all the same Infinite Power that was and is to be.

By the careful examination of complex arrangement of nerve plexuses and networks in many parts of the organism we may form some idea of the moments of the bioplasms at a very early period of development long

before a trace of the fibres and nerve trunks was to be discerned. For this purpose it is better to take a small animal than a large one—the little green tree frog, *Hyla*, a young white mouse, or a bat. The tissues of these animals are delicate but make beautiful specimens, and there is very little indefinite connective tissue to prevent us getting a clear view of the course and arrangement of the delicate nerve fibres in many parts and organs. That specimen showing the spiral arrangement of one of the fibres of a nerve cell from the *Hyla* figured in my drawings* and copied into many works demonstrates several general points connected with the arrangement of nerve fibres of great importance, though very different conclusions have been entertained with regard to the structure and action of such remarkable nerve cells. The fibres—one straight from the central part, the other spiral from the circumference of the body of the cell—may be traced to a point a short distance from the cell where one curves round the other fibre, so that they pursue *opposite directions* in the bundle of fibres with which they run. These and other points are referred to in my paper in the Philosophical Transactions of the Royal Society for 1863, Part II., p. 543.

Another example of the demonstration of a particular fact bearing upon important general questions, occurs in a specimen also from the *Hyla* in which a delicate nerve fibre can be followed from the fibre connected with it to its distribution on a capillary vessel, and its course may be traced for some distance near the outline of the vessel, which is also distinct. Upon comparing both these specimens with the drawings made on the wood blocks many years ago and afterwards engraved line for line, the correctness of the figures published in 1863 may be confirmed, and I think I am justified in saying that it is not easy to draw conclusions widely different from those I have arrived at concerning the arrangement depicted. These specimens were examined early this year by Dr. Alexander Morison.†

Now the facts alluded to do not accord with some of the first principles of nerve distribution and nerve action which are entertained. Both specimens need scarcely be said have some bearing upon the questions of nerve distribution, nerve ends, and nerve circuits which lie at the root of the problem of nerve action.

Notwithstanding the thousands of miles of type being constantly set up an English biologist has, indeed, very little chance of gaining the attention of the numerous active students of biology of the last decade or two either here or in other parts. I may be permitted to remark with regard to many recent observations concerning the arrangement of nerve cells and nerve fibres that the general conclusions of some good observers appear to be coming rather near to some of those represented in my drawings published about forty years ago. In particular as to the connexion of at least two nerve fibres with every nerve cell, while "apolar" nerve cells seem at

* Philosophical Transactions, 1863.

† See report of Dr. Alexander Morison's "Morison Lectures," Edinburgh Medical Journal, February, March, April, 1898, p. 228.

last to have been given up. Then the "nerve ends" seem to be gradually extending themselves farther and farther from the "nerve cells" both central and peripheral, and I begin to look forward in hope to the time of still more extensive fibre elongation, and even some day to the admission of nerve circuits structural continuity between "cells" and fibres everywhere, and uninterrupted tissue communication between all seats of nerve action in distant parts and central nerve cells. I look forward to the exposition of the development of the nerve systems of all organisms which possess them, from structureless bioplasm, and the explanation of the mode of working of every part of the most complex and elaborate nerve tissue arrangements in living nature. Few observers seem to venture to give an opinion on the question of action of the arrangements they describe. The anatomical distribution of the fibres and the general anatomy and distribution of the nerve fibres—indeed, the whole nervous system of man—is gradually being reduced to form and order by dissection, by experiment and microscopical observation, and by careful investigation of various cases of disease, especially where the pathological changes are restricted to particular parts of the peripheral and central portions of the nervous system. But still many first principles remain undetermined and we have yet much to learn concerning the minute structure and action of the simplest central and peripheral nerve arrangement of the precise action of nerve cells and the origin, nature, and mode of transmission of nerve currents. Criticism in this department to be of value to us must be careful and thorough. So far few attempts have been made to collate the multitudes of observations and views of the many workers and thinkers in this important department of knowledge so very closely connected with a knowledge of human action in health and disease.

I long to go further and think I could climb higher, much higher, and yet not reach the last rung of the strong ladder of observation and demonstration, particularly as regards this arrangement, development and action of nerve fibres and nerve "cells," but for the present forbear, for I fear I have already exhausted the patience of my readers with descriptions of minute anatomical details, their meaning and the manner in which they were produced, though so far I have described only what I have demonstrated and can show to others. The conclusions I have arrived at are, I believe, the only inferences that are reasonable and I believe the evidence to be convincing that all growth, all structure, all formation, are determined by vital action and depend in the whole living world upon vitality. Above all things, I desire that the attention of my readers should for the present be concentrated upon the consideration of this most important question—the existence of vitality as distinctive of the whole living world—peculiar to it and not representing or analogous to anything else in nature. If the conclusions at which I have arrived are wrong, scientific men who differ from me and teach totally different views ought to expose my errors and state the grounds of their objections. As regards all living matter being due to vitality, to the uninterrupted action of vital power operating in everything living, but in the living world only, I sub-

mit the following conclusions based upon facts of observation and expressed as clearly and in as few words as possible.

Everything living, the whole living world, past as well as present, was first in the state of colourless structureless living matter—bioplasm.

Some of the lowest forms seem to be structureless during the whole period of life; and all during the earliest stages consist of bioplasm with no discernible formed material or structure.

However complex and elaborate may be the structure of the highest organisms in the fully developed state, all were originally bioplasm or structureless living matter—were evolved from this. Without bioplasm evolution of any kind is impossible.

Every tissue, every structure, every organ is formed from and by the structureless bioplasm, and as far as is known there is no other mode of formation in living organisms.

Bioplasm manifests powers not possessed or exhibited by matter in any other state or under any other known circumstances or conditions—powers of directing, moving, governing, re-arranging material particles—powers of analysis and of preparing for synthesis—powers of preparing for and providing for, and as it were foreseen, future changes and developments. These wonderful powers, as it seems to me, can only be accounted for by attributing them to some power or influence operating in every living particle, but in the living world only—vital power, vitality—Biokraft—“a psychical factor, a factor which no physical research whatever can disclose or identify or get the remotest glimpse of” (Herbert Spencer).*

If the ordinary phenomena of life can be explained without postulating any such “psychical factor,” why have they not been so explained? What facts or laws, properties, processes, or energies expel vitality from living nature?

Every complex living organism consists of living matter or bioplasm and of formed material or tissue and other formed matters.

Every kind of structureless, colourless living matter in nature is associated with a large proportion of water. In the absence of water life exists not.

The living matter in fully formed organisms is inconspicuous and in specimens prepared by some methods is not seen at all.

Every particle that lives consists of: (a) living matter; (b) matter that

* Not a little confusion has of late years occurred in the use of the word “psychical,” some having extended its meaning and so generalised it until it is made to include those phenomena in all life which distinguish it from all non-life, and which by me have been termed “vital,” while by many the word is still restricted to *mental phenomena*. In my view all mental action is “vital” action, but I do not consider all vital action to be “psychical.” The “psychical actions” of a bacterium, of a monad, of an entozoon seem hardly admissible unless the word is to be substituted for “vital” in all cases. It has been ingeniously suggested that mental psychical phenomena have a *physical* as well as a *psychical aspect*—a double-faced system, but whether the physical or the psychical begins it, or both begin together, has not been stated.

has lived; and (c) matter which is about to live—matter about to be taken up by the living matter.

All growth, all formation, all structure and action, depend upon living matter.

Vital power is only imparted to non-living matter when it is infinitely near matter that lives and does not appear to exert any influence upon matter separated only by the very slightest space.

The "nutrient substances" dissolved in a large proportion of water seem to pass into the very centres of the particles of living matter where certain of the constituents are caused to live.

Bioplasm or living matter invariably proceeds from bioplasm that existed already.

Bioplasm cannot, as far as is known, come from the non-living and there is no gradual change from one state to the other.

All vital phenomena are absolutely different from any physical phenomena.

Bioplasm cannot be produced artificially.

It is probable than from the very beginning living matter exhibited the same general characters it exhibits to-day—always was and will be transparent, colourless, structureless, possessing spontaneous vital movements and analytical and formative power.

In all living matter then there is power or capacity of rearrangement of the constituents in a predetermined manner, so that special substances and special structures shall result when the matter ceases to live.

I am quite ready to publicly admit mistakes if my observations can be proved wrong, but I have been so many times over, the same ground and have examined the corresponding structures and their arrangement and studied their growth and formation in so many different organisms that I cannot believe my general conclusions as to vitality, the nature of growth and formation of tissue, are far from the truth.

I also hold strongly to the general arrangement that I have described of the finest nerve-fibres centrally and peripherally. I have been unable to satisfy myself of the existence anywhere of nerve ends or of central "cells" destitute of fibres or having the one fibre only. And surely by this time we ought to have been able to decide upon many such elementary questions of fact, involving as they do principles of the highest importance, not only to science, but to general knowledge—questions which now have to be referred to even in general education and are perhaps about to be subjects included in "secondary education."

Is it not extraordinary that even during the last half-century many trained scientific minds, notwithstanding the greatly increased advantages we enjoy of being able to penetrate far more deeply into, and to study with greater accuracy, the mysteries of the living world, should, like the natural man of old, have been more interested in the consideration of the tremendous destructive phenomena of the vast and remote non-living rather than in the wonderful if less conspicuous phenomena of living nature—of that living world in which we occupy the most important place,

far apart from, if not above, and in a category distinct from, that which includes every other living form? This very small but beautiful and elaborate life-world even now seems to appeal to the general science of our time far less decidedly than the crashing, crushing, terrifying, life-destroying energies of non-living, unapproachable, ineffable immensity—*Lancet*, August 13, 1898.

THE TOTALITY OR THE CHARACTERISTIC?

By GEORGE G. SHELTON, M.D.,
New York.

In the use of terms descriptive of the methods of prescribing remedies in accordance with our therapeutic law, the two terms "totality and characteristic" are met with more frequently than any others. The relation that these two bear each other is a matter upon which some differences of opinion may exist. Hahnemann, in his *Organon* and other writings, refers to the characteristic symptom in a general way; in fact, he does not define it at all as the *sine qua non* in the selection of the remedy; on the contrary, he emphasizes in numerous instances the totality of the symptoms as the one and only rule upon which a true homoeopathic prescription can be based. And yet, throughout the literature of our school, writers on *Materia Medica* and prescribers have always considered that certain symptoms are truly characteristic of certain drugs.

In Section 104 of the *Organon* we find this sentence: "When all the prominent and characteristic symptoms collectively forming an image of a case of chronic or of any other disease have been carefully committed to writing etc." And again, in Section 209, we find in a longer paragraph this clause: "To mark the most conspicuous and peculiar (characteristic) symptoms, guided by these, etc., etc." These are the principal references in the *Organon* to characteristic symptoms, and we cannot assume that by this brief reference to them that they are to be considered all-important as guides to drug selection.

On the other hand, we find in Section 18 the same authority referring to the totality in these words: "Hence, it undeniably follows that the totality of symptoms, observed in each individual case of disease, can be the only indication to guide us in the selection of a remedy." The "only indication" italicized in the translation. Again in Section 7, in defining the cause of symptoms, he states: "Hence the totality of these symptoms, this outwardly reflected image of the inner nature of the disease, that is, of the suffering vital force, must be the chief or only means of the disease to make known the remedy necessary for its cure: the only means of determining the selection of the appropriate remedial agent." In short, totality of the symptoms must be regarded by the physician as the principal and only condition to be recognized and removed by his art in each case of disease, etc.

It seems to me that Hahnemann's position on this question was very clear and distinct. That the totality of the aggregate symptoms should be the only guide for the selection of the remedy. What, then, becomes of the

characteristic? And can we assert that the truly homœopathic remedy, that is, the remedy that truly represents the morbid expression of the disease, must also contain the characteristic?

Let us study this point a little further. A characteristic symptom is one that is peculiar to one drug, and not found in the pathogenetic effect of other drugs, and also one that must be verified in repeated provers and not characteristic of some individual alone. For example, the fear of downward motion of borax, or the amelioration by being carried of chamomilla, are truly characteristic. Again, the peculiar delirium of baptisia that we have all seen repeatedly expressed at the bedside, viz., the sensation as if the body were divided in several parts and scattered about the bed. These symptoms are truly characteristic of these three drugs and peculiar to them, and are properly defined as characteristic symptoms. Are they always expressed in the totality, when these drugs are severally useful or should we, finding other symptoms indicating these remedies, hesitate to prescribe them when these striking and remarkable characteristics are not present? That is the question that has prompted this paper.

It is not possible for any observing physician to assert that these peculiar characteristics have not been of incalculable value in the selection of his drug and the cure of his case. The cobweb on the face of graphites, the splitting in the lower lip in pulsatilla, the hour of aggravation of natrum, the waving of the alæ of the nose in lycopodium, and the picking of the nostril in arum, have been the guides that have suggested these several remedies in the most deadly diseases that we have to combat and have led to brilliant results, and we cannot discard them in our daily work nor safely eliminate them from our symptomatology.

The casual reader of a Homœopathic Materia Medica cannot but be impressed with the usual symptoms expressed therein as indicative of certain remedies. It would seem to the student that a practitioner of medicine would wait a long time before he would hear a patient express himself in the words of the baptisia symptom related above, and yet this has occurred in my experience in several instances and I have treated ~~and~~ saved cases of pneumonia, guided by this peculiar expression, in which the language of the patients in their voluntary statement was almost word for word that of the text-book, as recorded from the proving, and yet the action of baptisia on the lung is exceedingly limited. It in no way produces anything like inflammation of lung tissue. In one or two instances I have had most gratifying results when some such characteristic was expressed or observed, and yet the totality did not call for the drug, but the characteristic was distinctly manifest; but by enabling the characteristic to outweigh many other symptoms, that, while present in the pathogenesis of the same drug, were found among other symptoms, enabled me to select the remedy. The key to the selection, however, was peculiar characteristic symptom. This brings a very fine point in the teaching as well as the use of a Homœopathic Materia Medica.

To further illustrate my position, let me relate a hypothetical case. A patient, suffering from typhoid fever, having passed the various stages of the disease, does not rally. Increasing prostration and loss of vitality

seems to be the general tendency. The tongue may be red on the tip, dry; restlessness pronounced; thirst a constant symptom; cold things desired; a decided nocturnal aggravation and general aching and malaise. A very good picture of rhus, and rhus, pathogenetically, is one of the foremost remedies in such a condition of typhoid fever. It would naturally suggest itself, and here we have five or six prominent symptoms in the patient, prominently manifested in the pathogenesis of a drug and also prominent in the treatment of this disease. Incidentally I notice the constant boring of the finger into the nose and the picking of the lip—pathologically indicative of degeneration of the nervous system. Rhus does not possess this symptom, but the aggregate symptoms expressed by the patient are for rhus. Shall I now depart from rhus and seek some remedy of which there are more than one, in which the boring of the finger into the nose and the picking of the lip is pathogenetic, or prescribe rhus? *Arum triphyllum* has this peculiar symptom; study its pathogenesis, which, by the way, is not thoroughly proved and we find that some of the symptoms expressed by rhus are also found under *arum*—not all; and yet the one persistent manifestation on the part of this patient is the symptom noted. All of the other symptoms, though indicative of rhus, can be found among other drugs, while no other drug possesses such a striking symptom so repeatedly manifested; in other words, so characteristic, as the boring of the finger into the nostril. Therefore the conclusion must be that in this instance, the totality of the symptoms, numerically speaking, is for one drug; the value of the symptom, pathogenetically speaking, is for another, and herein we find a characteristic which, in itself, should receive weight beyond the expressed totality, but we also find that the totality is not the totality of one single drug, but of many, whereas the characteristic is peculiar to this one most prominently and embraces some of the symptoms of the totality.

In the treatment of chronic disease, it would seem to me that the totality would be the one invariably to follow, and here I wish to repeat an assertion, often made by me in the classroom, that pathological and symptomatic harmony are indispensable to the accuracy of the law of similia, and so I believe that in the treatment of chronic diseases we will find comparatively few instances in which the peculiar characteristic, of which the one stated above form a type or class, will not be embraced in the totality. Those peculiar characteristics are found in the acute cases or cases that develop unusual conditions in the progress of acute diseases and rarely in chronic diseases. Of all the characteristics that seem to me to present the most interesting points of study, those of the mind and the disposition are of the greatest value. The peculiar delirium of belladonna, stramonium, hyoscyamus; the peevishness of antimonium; the arrogance of platinum and the melancholia of veratrum, all in themselves should far outweigh many of the associated symptoms when selecting the remedy. For the general symptoms of many diseases are very similar. You do not find patients with pleurisy amusing themselves by deep inspiration, or a joint affected by articular rheumatism constantly moved and tossed about, and yet we find our most valuable remedy for the latter oftentimes

thus, that has a horror of being still. That symptom of restlessness, so characteristic of the drug, must subordinate to the rest in the totality by the very nature of the ailment. Again, individual idiosyncrasy plays a most important part; patients can mislead by exaggeration or intention in the general symptoms, but the characteristics are uniformly involuntary, not controlled by the will, and the patient, unless educated to deceive, is unaware of their expression.

The truest prescriber is the best observer, not the closest questioner. How, then, can we reconcile my statements, with the quotations from the Master himself, as read at the beginning of the article? I do not think that the difference is so very great. It is only by our appreciation of the relative value of symptoms that we can make these points harmonize, and the true characteristic symptom, that is, the symptom peculiar to a single drug, found in that drug only, repeatedly manifested in its proving, will universally be found as but one of a group of symptoms which do express the aggregate or totality of the symptoms expressed by the patient, and, in so far as we are unable to make these points harmonize, in so far our knowledge of the drugs and their proving is limited.

To go back to arum. I do not believe we yet know all the symptoms that drug contains and further study may show that when its characteristic is prominently present the totality will also indicate the drug. Neither do I believe that we will find the movement of the alæ of the nostril as true expression of prostration unless we find a distended abdomen, an afternoon aggravation and tissue changes, such as are found only in lycopodium.—*North American Journal of Homœopathy*, August 1898.

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THE PLAGUE COMMISSION; WHAT THEIR
DUTIES TO BE.

WE give below the Resolution of the Government of India appointing a Commission to inquire into the various questions touching the recent outbreaks of Plague in this country. The resolution deserves a permanent record as showing the benevolent anxiety of a paternal government for the welfare of the people in a matter that concerns them most vitally. The plague is not an unknown disease in India. It is endemic in certain Himalyan regions such as Garhwal, but it has not been known to spread from these endemic centres in an epidemic form to other parts of India, at least no epidemic outbreaks have been directly traced to them, though it is not improbable that with care and scrutiny such relationship might be established. However this may be, certain it is that the outbreak of the plague in Bombay city in August or an anterior date in 1896 has not yet been so traced.

It will remain a fact for all time that the Government of India awoke to the necessity of appointing a Commission to investigate the plague, not till two and half years after its first appearance in the city of Bombay, not till after it had ruined and devastated

that fair city and become so widespread as to visit "all parts of the Bombay Presidency, the city of Calcutta, the district of Saharanpur in the North-Western Provinces, the districts of Jullundur and Hoshiarpur in the Punjab, several districts of the Madras Presidency, the Hyderabad and Mysore States, the Sirohi State in the Rajputana Agency, and the Gwalior State in the Central India Agency,"—not till after a lac and half of people at the lowest estimate had succumbed to the disease, and not till after the country had passed through an ordeal no less disastrous and ruinous than even the plague itself.

With a complacency exclusively their own the Government of India, while appointing the Commission, did not neglect to take credit for having devised and prosecuted measures to stay the epidemic, measures which, they think, notwithstanding that the plague has been so widespread as described by themselves, "have been attended in many respects with marked success." We hope the Commission will not be influenced by this opinion of the Government on their own doings. The presence on the Commission, however, of three Government officials, two of whom had so much to do with plague measures, and the absence of a single non-official independent Indian member, may not be looked upon by the overcritical as of happy augury.

It may be said, as indeed it has been surmised by the *Lancet*, "that the functions of the Commission are mainly of a scientific and technical character, and matters of sanitary and medical organisation do not, therefore, fall within their province and purview." This would appear to be the case when we find the Government of India declaring that the questions which the Commission will have to inquire into are to be: "(1) origin of the different out-breaks of plague; (2) the manner in which the disease is communicated; (3) the effects of curative serum; and (4) the effects of preventive inoculation;" and when we find them stating that "the object with which the Commission is appointed is to conduct an investigation of a scientific character, the results of which will be of the greatest interest and importance not only to the Government of India, but beyond the limits of the Indian Empire." Are we to suppose that by the terms of their appointment the Commission are precluded from taking up the questions of isolation and segregation, the manner and the extent

to which they may be legitimately carried out? The determination of question (1) and (2) will lead logically to the consideration of the questions of isolation and segregation, and we do not see how the Commission can resist any conclusion which may be the outcome of that determination.

The Commission are expected "to conduct an investigation of a scientific character" into the four questions enumerated, and the matter of method and procedure is left entirely to their discretion. It is not clear whether the business of the Commission will be confined to taking evidence or whether in addition they will make independent research on the various points which Government have submitted to them. They have commenced sittings, but they have not yet given out the programme of their work. All that they are doing at present is the examination of witnesses lay and professional, and unless they decide for themselves disputable points, and every point in connection with the plague is disputable, we do not think they will fulfil the object for which they have been appointed.

Now as regards the first question, namely, the origin of the different outbreaks, the point may be settled by the examination of witnesses provided they can lay before the Commission ample and reliable information. But we doubt if such information is forthcoming or available. It will be incumbent, therefore, on the Commission to require that fresh outbreaks of plague in new places and the recrudescence of plague in old infected places should be watched with the most searching scrutiny, in order to decide the much vexed question of the rôle played by rats and parasites. This determination is essential to the adoption of proper and effective preventive measures.

As regards the second question it ought not to be settled by the examination of witnesses alone. This matter can only be positively and scientifically settled by ascertaining the nature of the cause or causes of the disease, whether this cause or these causes are of the nature of inorganic miasmata or effluvia, or whether, as now generally believed, they are of the nature of living germs. If they belong to the former class their chemical composition and the modes of their production must be ascertained. If they belong to the latter, their life-history in all its phases must be determined; and it is easy to see how the ques-

tion in this latter aspect becomes a vast, almost an interminable problem.

Not being experts ourselves it may be impertinent in us to say so, but in view of the conflicting opinions still prevalent, we cannot help saying that the bacteriology of plague has not yet been satisfactorily worked out. We have yet to discover whether there is one form of bacillus common to all the varieties of plague, or whether each variety has its own specific bacillus, or whether the so-called plague bacillus is not after all a peculiar development under peculiar circumstances of the bacilli common to septicæmic fevers. The whole subject is worth investigating anew without any reference to the anterior discoveries of Kitasato, Aoyama, Yersin and others, at least without looking upon any of them as final. As will be seen from the following article, Dr. P.-L. Simond, studying the epidemic in Bombay, has confirmed the experience in all ages of the intimate connection of all human epidemics with the epidemics among rats. Dr. Simond goes further and maintains that rats play the most important part, more than human beings, in disseminating the disease and in causing it to assume the epidemic form. Such being the case, bacteriologists have to explain how the plague bacillus passes more easily from rats to man than from man to man ; and this, in our opinion, should be a subject of inquiry by the present Commission.

As regards the third and fourth questions their determination ought less to be based on the evidence of witnesses alone, for the witnesses are not only few, but they are necessarily and naturally interested witnesses, and therefore however they might endeavour to give honest and truthful evidence, it is not too much to believe that their enthusiasm might befog their judgment. Hence it will be seen that in order to arrive at a conclusion in these matters the Commission will have to work out the problems themselves.

The professional members of the Commission, as eminent experts in microscopy and bacteriology, are quite competent to carry on the investigations necessary to solve these various intricate and difficult problems. But the investigations are of such a nature that, in order to be thorough and satisfactory, a good length of time must be devoted to them. We doubt if the

whole of the cold weather down to the end of February will be enough. Government have wisely fixed no time within which they are to finish their inquiries, but will the professional members of the Commission, who have permanent, responsible appointments in their own countries, be able to stay here till the end of February or beyond if necessary ?

GOVERNMENT RESOLUTION, dated Simla, the 11th November, 1898.

Plague broke out in the City of Bombay during the rainy season of 1896 and has since visited all parts of the Bombay Presidency, the city of Calcutta, the district of Saharanpur in the North-Western Provinces, the districts of Jullunder and Hoshiarpur in the Punjab, several districts of the Madras Presidency, the Hyderabad and Mysore States, the Sirohi State in the Rajputana Agency, and the Gwalior State in the Central India Agency. No efforts have been spared in devising and prosecuting measures to stay the epidemic, and the Government of India think that, although the plague has been widespread, these efforts have been attended in many respects with marked success.

2. The Governor General in Council is of opinion that the time has now come when it is possible as well as most desirable to obtain reliable scientific opinion as to the manner in which the disease is communicated, the causes of the outbreaks in different parts of India, and the circumstances influencing their growth and decline. The facts connected with the outbreaks of the disease are still very obscure, and no such opportunity has arisen—and it may be hoped that none will arise in the future—as now presents itself for their investigation. A number of interesting facts have already been collected and embodied in the different reports regarding the outbreak of the disease which has prevailed in India for the past two years ; but there must be many valuable items of information to be ascertained from officers who have been employed on plague operations that have not been recorded in official reports ; and there are also many circumstances connected with the outbreaks at different places which require to be locally examined by persons who can collate the facts and form conclusions which will be accepted by public as well as scientific opinion in respect of them.

The Government of India also regard it as very desirable that an authoritative scientific opinion should be obtained as to the value of prophylactic and therapeutic serum in dealing with plague.

3. The Governor General in Council has accordingly decided, with

the approval of Her Majesty's Secretary of State for India, to appoint a Commission to inquire into the following questions :—

- (1) the origin of the different outbreaks of plague ;
- (2) the manner in which the disease is communicated ;
- (3) the effects of curative serum ; and
- (4) the effects of preventive inoculation.

The object with which the Commission is appointed is to conduct an investigation of a scientific character, the results of which will be of the greatest interest and importance not only to the Government of India, but beyond the limits of the Indian Empire.

4. The President of the Commission will be Professor T. R. Fraser, M.D., LL.D., F.R.S., Professor of Materia Medica in the University of Edinburgh. The Members of the Commission will be Mr. J P. Hewett, C.I.E., I.C.S., Secretary to the Government of India in the Home Department ; Professor A. E. Wright, M.D., Professor of Pathology in the Army Medical School, Netley ; Mr. A. Cumine, I.C.S., a Senior Collector in the Bombay Presidency ; and Dr. M. A. Ruffer of the Egyptian Sanitary Department. Mr. C. J. Hallifax, I.C.S., will be Secretary to the Commission.

5. The Commission will be formally constituted on the arrival of the members from England. They will first visit the city of Bombay and will probably then desire to make enquiries in the other parts of India in which plague is or has been prevalent. The Governor General in Council desires to leave the matter of method and procedure entirely to their discretion. The general conduct of inquiry and the regulation of the course of business before the Commission will be entrusted to the President in communication with the members. The Commission, through their Secretary acting under the instructions of the President, will correspond direct with Local Governments and Administrations (including Political Officers in direct relation with the Government of India) and Departments of the Government of India and with any local authorities with whom direct communications may be authorized by Local Governments and Administrations as a matter of convenience and in order to save time. It is requested that all communications or requisitions for information emanating from the Commission may be treated as urgent and complied with promptly, and that, in the event of the Commission visiting a Province, they may be afforded every facility for their inquiries.—*Gazette of India*, Nov. 12, 1898.

DR. P.-L. SIMOND ON THE PROPAGATION OF PLAGUE.

Dr. P.-L. Simond, who has so assiduously studied the Plague in Bombay, has published a most exhaustive memoir on the subject of its propagation in the October number of *Annales de l'Institut Pasteur*. The memoir occupies 63 pages royal octavo, and consists of seven chapters. In the first chapter the author treats of the origin of the epidemics of plague observed since 1893 in China and India; in the second, he treats of the propagation of plague in India by land and by sea, of the modes of its progression, and the insufficiency of man as an agent of transport; in the third, he treats of the rôle which rats play in the propagation of the disease by land and by sea; in the fourth, he deals with objections made against the propagation by rats, with the contagion as it spreads from man to man, with the influence of the seasons on the development of the epidemic, and with the subject of periodical recrudescence; in the fifth, he describes some valuable researches on the mechanism of the transmission of the microbe, and on the insufficiency of the theory of scattered microbes in the external medium; in the sixth, he gives facts of clinical observation in favor of the parasitic transmission of the disease, and details experiments which confirm the inoculation of the virus into rats and man by flies; in the seventh and last, he speaks of the duration of the period of inoculation of the plague and of its prophylaxis, and finally he gives a summary of the conclusions he has arrived at, and of which we give a translation below. The period of incubation, not given in the following summary, varies, according to the author, from 12 to 72 hours, and never exceeds four days.

Summary.

I. The study of the propagation of plague shows that the rat and man are the two factors in the transmission of the disease. Man is the ordinary agent of transmission by paths of the earth to great distances which the rat cannot reach. The rat is the agent of transmission from places to those nearest. More redoubtable than man, it plays the essential rôle in the dissemination to the point which may be considered as the condition of epidemic character of plague.

II. The introduction of plague-stricken rats in the midst of a healthy locality is followed by a brief delay in the appearance of epidemic cases among men. The importation of plague-stricken human beings in a healthy locality is not always followed by indigenous epidemic cases; it is necessary, in order that this may result, that there should be a concurrence of favorable circumstances among which the previous transmission of the virus to rats seems to be the most important. There passes, between the death of an imported human being, responsible for an epidemic, and the manifestation of this epidemic, a period of incubation which represents the lapse of time necessary for the development of plague among rats.

III. The gravity of a human epidemic is proportional to the gravity of an epidemic among rats. The progress of the disease in a town follows the path of the emigration of rats.

At the time that the great mortality has ceased amongst them, it may be shown that the disease continues among rats in a benign form. The so-called sporadic human cases which occur after the decline of an epidemic ought to be attributed to this cause. The contagion from man to man and the persistence of the infection in habitations play but a secondary part in the duration, as well as in the gravity, of a human epidemic.

IV. The seasonal influences are but little marked in the development of epidemics of plague. In India epidemics have occurred in all seasons. Nevertheless the great epidemics have had up to the present their climax outside the season of the greatest heat.

V. A second epidemic of plague generally appears twelve months after the appearance of the first, from which it is separated by a period of lull of longer or shorter duration. The reason of the periodicity of epidemic return has not been determined; it is connected with the returns of the epidemic among rats and depend in part upon the re-peopling of the town by these animals.

VI. The failure of experiments to infect rats, monkeys, and squirrels with cultures of the plague, and with the blood and organs of the plague-stricken animals, mixed with foods, demonstrates the falsity of the theory which makes of these the habitual cause of the contamination of animals.

Observation and experiment are equally against the idea of a habitual contamination of man by contact of the microbe, scattered in the external medium, with accidental excoriations of the skin.

VII. The chemical study of plague teaches that, in a certain proportion of human cases, the point of entry of the microbe is marked by a local reaction, the early phlyctena, and always situated in these cases in a region where the skin is delicate and healthy. The works of Metchinkoff on inflammation and the chemical facts of infection by other pathogenic microbes, allows the supposition that, in the cases of plague where the local reaction (phlyctena) and the regional reaction (bubo) are wanting, their absence is due to the greatest virulence of the microbe and not to a different mode of penetration.

VIII. The idea of parasitic transmission of the disease which flows from clinical observation is in correspondence with the invasion of plague-stricken rats by flies which, some hours after death, abandon the corpse to attack other animals and man. This is confirmed, 1st, by the presence of the specific microbe in the intestinal contents of the flies that have sucked the septic blood; 2ndly, by certain peculiarities of transmission from rat to man and from man to man; in the case of the latter it is possible that other parasites, particularly the bug, may intervene; 3rdly, by the possibility of transmission of plague to a healthy rat by cohabitation with a rat parasitically infected by flies, whereas cohabitation with rats infected otherwise than by flies is constantly innocuous.

IX. The mechanism of the propagation of plague is comprised in the transmission of the virus by the rat and by man; its transmission from rat to rat, from man to man, from man to rat and from rat to man, by parasites. The prophylactic measures ought therefore to be methodically directed against each of these three factors: parasites, man and the rat.

REVIEW.

An Abridged. Therapy. Manual for the Biochemical Treatment of Disease. By Dr. Med. Schuessler, of Oldenburg. Twenty-fifth Edition, in part Rewritten. Translated by Prof. Louis H. Tafel. Boericke and Tafel, Philadelphia, 1890.

A MELANCHOLY INTEREST attaches to this edition of *Abridged Therapy* by Dr. Schuessler. It is the last by the author, and the very last which the world could get from him, as it "was published shortly before his death." He had a stroke on the 14th March last. From this, however, we are told, he "quickly recovered, so that he was able to finish on the afternoon of the following day the last proof of the last sheet" of this edition. He died on the 30th March, but before unconsciousness overtook him and proved to be his final sleep, he had "the pleasure of distributing a number of copies of the same among his colleagues and friends."

Messrs. Boericke and Tafel deserve thanks for the service they have done to the profession by publishing an English Translation of Schuessler's work. The translation has been made by Prof. Louis H. Tafel, the gentleman who has recently so creditably done the translation of Hahnemann's *Chronic Diseases*, and we may be sure that the name of the professor is a guarantee that the translation has been faithfully done. In accordance with the author's express desire this translation has been made a strictly literal one, containing "nothing more and nothing less" than what is in the original. The obituary notice of the author prefixed to this English edition, necessitated by his death immediately on the completion of the work, is the only departure, if indeed it is a departure, from the author's wish.

We wish that the obituary had been a little fuller than it is. The reason of its being so meagre, as we gather from the notice, reveals a loveable trait of the distinguished man's character. "But little is known," says the writer of the notice, "as to the life and development of the creator and founder of biochemistry. Hardly anything touching it is found in the papers he has left behind him, and there are no near relatives living—he was unmarried—who might give us information. The repeated requests of his friends to write an autobiography, he had always put aside with the

utmost decision; for while he was fully convinced of the importance and scientific exactness of the therapy created by him, he was reticent and modest in everything touching himself personally."

We nevertheless think that the notice could have been and should have been made fuller, if not to show the development of his character as a man, at least to exhibit the development of his system in his mind, in order to enable the professional reader to see what relation it bears to the other systems of medicine in vogue in the world.

All the facts that we can gather of his life from the obituary are: that he was born on August 21, 1821, in Zwischenalm, in the Grand duchy of Oldenburg, where he passed his childhood; that he devoted his youth and early manhood to acquiring an extensive knowledge in various domains of human knowledge, especially in philology, so that he was a perfect master not only of Latin and Greek, but also of French, Italian, Spanish and English, and that love for comparative philology had induced him to study even our own Sanskrit; that it was only at a mature age that he could carry out his long-cherished wish of entering a university; that he studied in the universities of Paris, Berlin, and Giessen, in which last after a study of five terms, he obtained his diploma; that after this he studied three more terms in the university of Prague; and that after having passed the examination at the "Gymnasium" and the medical examination required by the State before the "Collegium Medicum" in Oldenburg, he received the license of settling as physician in this city on August 14, 1857.

We are further told that besides his studies in the general medical subjects, he also took up the study of Homœopathy, that he practised this system from the very first, and that he acquired a great name in the whole country as a homœopathic physician; though far beyond his native land he became known after 1873 as the founder of a new curative method, that of biochemistry.

How we should have liked to know where he spent his youth and early manhood in acquiring general knowledge and a mastery over so many languages; how long he studied at Paris, Berlin, Giessen, and Prague; and what induced him to study homœopathy. The obituary says nothing about these points, and many others, which the reader, especially the professional reader, is

curious to have a knowledge of. We trust that in a second edition which, we are sure, will soon be called for, the enterprising publishers will furnish details about them.

It is a satisfaction to us to know that Dr. Schuessler not only knew Homœopathy but practised it from the very beginning of his career as physician, and that he continued to practise it for no less than fifteen years, from 1857 to 1872, before his attention was turned to what he has called the biochemical treatment of disease. It is no less to his credit as an intelligent, observant, and conscientious physician that though he received his medical education in orthodox institutions he could see through not only the utter futility and hollowness, but the mischievousness and, in many cases, the actual danger of the orthodox practice. It must have been this conviction arrived at most probably while only a student which had induced him to study a system which dispensed with the torturing and often murderous weapons of the old school, such as the actual cauter, blisters, blood-letting, &c.

It is not a little singular, that Dr. Schuessler, though he practised homœopathy for fifteen years, and "by many successful cures acquired a great name in the whole country as a homœopathic physician," and though, in March 1873, in an article in the *Homœopathic Gazette*, published in Leipzig, he announced his system as "shortened or abridged homœopathic therapeutics," should latterly disclaim all relationship of his system to homœopathy, and that, in this his last edition, he should accentuate this disclaimer in the strongest manner. "Whenever small doses are mentioned," says he, "the reader usually at once thinks of Homœopathy; my therapy, however, is not homœopathic, for it is not founded on the law of similarity, but on the physiologico-chemical processes which take place in the organism. By my method of cure the disturbances occurring in the motion of the molecules of the inorganic substances in the human body are directly equalized by means of homogeneous substances, while Homœopathy attains its curative ends in an indirect way by means of heterogeneous substances." He further says: "The principle according to which a remedy is selected stamps its impress upon it. A remedy selected according to the principle of similars is a homœopathic remedy, but a remedy which is homogeneous with the mineral substances of the organ-

ism, and the use of which is founded on physiological chemistry, is a biochemical remedy."

Not content with this disavowal, Dr. Schuessler goes further still and says: "A Homœopath using *Silicea* unconsciously acts biochemically. *Silicea* cannot produce any symptoms in a *healthy* person which could cause its use in diseases according to the principle of similars. Homœopaths use *Silicea* on account of curative symptoms gained empirically. In the same way they act with respect to the cell-salts, which they used before the establishment of biochemistry." This is exquisitely beautiful from a man who drew his first inspiration from homœopathy.

The reader no doubt must be very curious and even anxious to know the truth about this matter. But to discover it here in India, where we have not the advantage of good libraries, is a hopeless task. Hence it is we complained above that no detailed life of the author, so far at least as concerned the development of his system, has been given. We shall endeavour to present to the reader all available facts, so that he may judge for himself as to how far Schuessler was justified in shaking off all obligations to homœopathy and Hahnemann.

In the Preface to the present edition, after giving the following extracts from the *Cycle of Life (Kreislauf des Lebens)* by Dr. Moleschott, Professor of Physiology in the University of Rome, he tells us that these words caused him to found a biochemic therapy: "The structure and vitality of organs are conditioned by the necessary amounts of inorganic constituents. It is owing to this fact that the proper estimation of the relation of the inorganic substances to the various parts of the body, an estimation which neither proudly disdains other moments nor indulges in extravagant hopes for itself, promises to *Agriculture* and to *Medicine* a brilliant future. In view of all the facts bearing on the case, it can no more be controverted that the substances remaining after combustion—the so-called ash constituents—belong just as essentially to the internal constitution, and thereby to the bases of the tissues which gives to them their form and determines their species, as do the substances volatilized by combustion. Without a basis yielding gelatine, there can be no true bone, but just as little can there be true bone without bone-earth, nor cartilage without cartilage-salts, nor blood without iron,

nor saliva without Potassium-chloride. Man is generated of earth and air. The activity of plants called him into life. The corpse is decomposed into air and ashes, and through the vegetable world it then develops new forces in new forms."

Thus, we may say, these significant words of Prof. Moleschott were to Schuessler what the apple-fall was to Newton and the cinchona experiment to Hahnemann. But we may maintain, however, that he could not have advanced a step beyond a mere vague though bold idea without his previous knowledge of homœopathy. Of the twelve inorganic salts he first chose as his cure-all's, four were already proved by the school of Hahnemann, Silicea and Natrum muriaticum by Hahnemann himself, and two others Calcarea phosphorica and Natrum sulphuricum subsequently. Of these he took the indications from the provings direct. Of the remaining eight, Kali phosphoricum, Natrum phosphoricum, Magnesia phosphorica, Ferrum phosphoricum, Kali sulphuricum, Calcarea sulphurica, Kali muriaticum, Calcarea fluorica, he took the indications by a comparison of the provings of the other compounds of these elements, and built his system on this hotch-potch. The following from Hering will show the method adopted by Schuessler in the beginning :

"*Magnesia phosphorica*. The Hahnemannian provings of *Magnes. carb.*, *Magnes. sulph.*, and *Magnes. mur.*, have been compared, and the conclusion drawn: the fundamental characters were the same in all three. It is presumed that the carbonate as well as the sulphate and murate only acts by uniting in the body with phosphoric acid. It is presumed by Schuessler that the *Magn. phosph.* 'acts quicker and is more secure, as we do not know when they come in the stomach or the blood, if the conditions of the said changes of the acid, are present in the sick or not.' Here ought not to be forgotten, that we do not know if such changes really have to take place. We do not know the greater or less affinity of *Magnesia* to the different acids after these other compounds are inserted. Schuessler considered it the medicine for the nerves, notwithstanding that it has been found only in the bones, once in white hair, and often in concretions or bezoars, thus, draws his conclusion from the symptoms the different salts have produced in our provings.

"*Ferrum phosphoricum*. As *Ferrum* has produced in all of

Hahnemann's and other provings, that hyperæmia which is due to relaxation of the muscular fibres of the vessels, and as the Ferrum in large doses causes Virchow's irritation-hyperæmia, a small dose will bring the relaxed state from other causes, back to its normal condition. The provings of Ferrum are compared, and the Phosphate of iron preferred, for the same reasons as the Magnesia phos., and adopted as the remedy for all inflammations.

"*Kali sulphuricum*. The provings of Sulphur and Kali carb. were compared, and what was common in both considered as indicating symptoms of the not proved Kali sulph., and concluded it would act on epidermal eruptions, acting on the epithelion in catarrhs, with a yellow, sticky secretion, etc.

"*Kali phosphoricum*. The provings of Phosphorus and Kali carb. compared, have given the indications for the not proved Kali phosph. Schuessler's main conclusion is that it acts in large, repeated doses, depressingly on the action of nerves, and decomposes the blood corpuscles; thus it would be homœopathically indicated in so-called nervous weakness and in other corresponding morbid diseases; in all septic diseases with decomposition of blood."

It was in this way that the indications of other unproved remedies were originally derived, and yet Dr. Schuessler did not hesitate later on when he thought he could do without them, to proclaim the want of necessity of provings! "Some physicians," says he "have asserted that biochemical remedies ought to be proved on healthy persons, and their indications should be derived from the symptoms ascertained from such provings. But this is altogether erroneous. The indications of biochemical remedies must be derived from physiological and pathological chemistry, *i.e.*, through results of their use in the various diseases." We fail to understand what the author means. He evidently here confounds physiological and pathological chemistry with the haphazard results of the empirical uses of drugs. But what similarity, far less identity, can there be between the two we are quite at a loss to conceive. It is not a little singular that having successfully practised homœopathy for fifteen years he should at the end of that time lose all faith in the power of drugs to produce morbid symptoms. "Who can believe," he asks, "that by giving large or small doses of cell-salts to healthy persons, we could cause morbid symptoms having any similarity with puerperal fever, with typhoid fever, with articular rheumatism, with chills and fever, with hygroma patellæ, etc., etc.?" Pharmacodynamics is no longer a matter of belief. It is now a science based upon provings or experimentation on the healthy.

Want of space compels us to hold over our final consideration of the subject till the next number.

EDITOR'S NOTES.

Comparative Longevity in the Countries of Europe.

According to the *Bulletin Général de Thérapeutique* the average duration of life amongst the chief nations of Europe is as follows, the figures being based upon the bills of mortality for the decade 1881-90: Sweden and Norway, 50 years; England, 45 years and three months; Belgium, 44 years and 11 months; Switzerland, 44 years and 4 months; France, 43 years and 6 months; Austria, 39 years and 8 months; Prussia and Italy, 39 years; Bavaria, 36 years; and Spain, 32 years and 4 months.—*Lancet*, Oct. 8, 1898.

Late Dysenteric Abscess of the Liver.

JOSSELAND draws attention (*Journ. de Méd.*, July 25th, 1898) to the fact that hepatic abscess may originate in patients who many years previously have suffered from dysentery, and it is therefore important in all cases presenting the signs of this condition to go most carefully into the history. It is quite possible that the occurrence of an attack of dysentery seven, eight, or even ten years previously, and possibly forgotten by the patient, may be the cause of abscess of the liver. Several cases bearing this out are recorded by the author and others. Sometimes the symptoms closely resemble those of phthisis, there being wasting, night sweats, and irregular temperature, with pleuritic friction and purulent expectoration. In one case the author found on *post-mortem* examination a very slight amount of chronic dysenteric ulceration in the intestine. From this he infers that a small intestinal lesion may be latent for a long time, and finally declare itself by causing hepatic abscess.—*Brit. Med. Jour.*, Sept. 24, 1898.

Complete Rupture of the Trachea.

An instance of this rare lesion occurred recently in a man, aged seventy-three years, who was struck by a lift on the back of the head as he was looking down the shaft, with the result that he was knocked down, breaking sternum. He survived the accident in St. George's Hospital fourteen days, and at the necropsy it was found that the trachea was torn completely across. Although the injury is very rare, many cases have been recorded in medical literature. The cause of the accident has generally been a severe blow or the passage of a cartwheel over the throat; in one case it was due to a forcible bending backwards of the head. Urgent dyspnoea and much subcutaneous emphysema are the usual symptoms and death generally occurs within a short time, but, though death is the common termination, recovery has ensued in at least 3 cases—in 2, recorded by Fung and Wagner, without Tracheotomy, and in 1, recorded by Lauenstein, in which the trachea had to be opened. It is not improbable that in the case referred to above the fatal result was due to the other injuries sustained rather than to the rupture of the trachea.—*Lancet*, Oct. 8, 1898.

Rain-making.

The drought still continues but the bright clear sky during the present week has disappeared, very little sunshine has been recorded,

and the British Isles have been wrapped in clouds. But the clouds seem loath to part with their load of precious water, a reluctance which must be most exasperating to water directors and water engineers. The atmospheric pressure is high and the conditions have been such as to militate against the coalescing and ultimate descent of the particles of water which are so near at hand in large quantity and yet apparently beyond realisation. Scientific research has not been, so far as we are aware, seriously turned to the possibility of tapping the clouds, but in these days when it is considered feasible by the leaders of science to derive the food of man indirectly from the air the suggestion is not so absurd as it might seem. Ordinary raindrops are found by the coalescing of a number of the smaller particles which compose cloud. Can, therefore, no means be devised of effecting this coalition, of uniting the smaller particles into particles which at length become so large as to drop to the earth in the form of a blessed rain? The water companies might devote a sum of money towards the practical investigation of this matter or at any rate might institute a committee of enquiry of scientific men with a view to discussing the possibility of being able to induce a result on the lines indicated.—*Lancet*, Oct. 8, 1898.

Nephritis following Vaccination with Calf Lymph.

FRIEDICH (*Jahrbuch f. Kinderheilk.*, vol. xlvii, pp. 2 and 3, 1898) relates the case of a child, aged $6\frac{1}{2}$ years, who was vaccinated at the State Institute in Christiania, and 11 days after the operation developed symptoms of nephritis. The family history was good, and there had been no case of scarlet fever or any other infectious disease in the house or neighbourhood. The child had always been perfectly healthy, and had not suffered from any previous illness. On the eleventh day after vaccination the mother noticed that the eyelids and cheeks appeared to be swollen; this symptom disappeared in two days, and was succeeded by pain and swelling in the scrotum; no other part of the body was affected. On the fourteenth day after the vaccination the urine contained blood. Some of the oedema had returned on the eyelids and cheeks. The lymphatic glands in the neck and inguinal regions were enlarged and tender; there was also slight oedema of the legs. All the organs of the body appeared to be normal. The child continued to have blood and albumen in the urine for the next month; he ultimately made a good recovery. There was no pain in the back or headache throughout the illness. The vaccination marks looked perfectly normal, and they had not caused the child any discomfort. The usual antiseptic precautions

were adopted in this case at the time of operation; and other children vaccinated with the same calf lymph experienced no unfavourable symptoms. Some similar cases have been recorded by German observers; they all made good recoveries.—*Brit. Med. Journ.*, Oct. 15, 1898.

Kidney Lesions in Malaria.

G. R. PICCI has investigated (*Il Policlinico*, vol. v. 1898) the effects of malaria on the kidney. Besides producing a simple albuminuria, this disease may cause actual lesion of the kidneys, though the tendency to do so does not appear to be marked, and such renal lesions as are produced by malaria seem to be more common in autumn and spring than at other seasons, and more particularly occur in young patients. There does not seem to be, according to the writer, any relation between the severity of the one and the other; thus a slight attack of malaria may in certain patients produce well-marked nephritis, and renal lesions are not more liable to occur in a first attack than in any others. Usually the renal lesion is subacute and accompanied by few symptoms, and is desquamative or tubular in character, and in the great majority of cases there is restoration to health without any trace of the lesion being left. At the same time, should there be repetition of the malarial attacks, there is a marked tendency for a renal lesion to become permanent. Sometimes a nephritis of an acute character, and much more marked, may arise from malaria and pass into a chronic form, but the author observes that some of the more usual features of the disease may be absent. Oedema is generally present. The renal attack may appear during the febrile period or after, the latter form being styled by the author post-malarial, as it may only first appear several days after the attack. It is possible that the so-called cases of malarial hæmoglobinuria are in point of fact instances of acute malarial nephritis. The writer refers to some rare cases of acute anasarca without albuminuria as occurring in malaria.—*Brit. Med. Journ.*, Sept. 24, 1898.

The cause of the death of George II.

At a time when England was resounding with proclamations of naval and military glories, George II. died suddenly at Kensington from a rupture of the right ventricle of the heart whilst preparing for a walk in the garden. This was on Oct. 25th, 1760. In the *Phenographic Record* for October of the present year Dr. G. F. Atchley publishes a reprint from the *Royal Magazine* of 1760 giving an

account of the necropsy made upon the body of the King. The report is dated Kensington palace, October 18th (*sic*), 1760, and is as follows:—"In obedience to the order transmitted to us by the Rt. Honr. Mr. Vice-Chamberlain, we, the undersigned, have this day opened and examined the body of his late Majesty, in the presence of Sir Edward Wilmot, Bart., and Dr. Nicholls, two of his late Majesty's physicians; and first on opening the belly we found all the parts therein contained in a natural and healthy state, except only that on the surface of each kidney there were some hydatids or water bladders, which, however, we determined could not have been at this time of any material consequence. On opening the breast we observed the pericardium or bag which contains the heart extremely distended, which was owing to a large effusion of blood, that had been discharged therein from a rupture in the substance of the right ventricle of the heart. The quantity of the blood in the pericardium was at least a pint, the most part of which was strongly coagulated. The rupture of the ventricle and the consequent effusion of blood in the pericardium were certainly the immediate cause of his late Majesty's sudden death. The brain, lungs, and all the other parts were in a perfect state. (Signed), E. Wilmot, John Ranby, Jr. Nicholls, and C. Hawkins."—*Lancet*. Oct. 15, 1898.

The relation of the Growth of the infant to the composition of the milk.

In an article contributed to the *Zeitschrift Für Physiologische Chemie* (Band xxiv., p. 285) Dr. Pröcher has, at Professor Bunge's suggestion, set himself to corroborate by further research on a large scale and observation made by Professor Bunge himself to the effect that the rapidity of growth in the suckling is dependent upon the proportion of albumin in the milk. Professor Bunge believed he had demonstrated this to be correct in the case of man, horse, cow, and dog. Dr. Pröcher ascertained by experiment, on the one hand, the time required for the newly-born young to double its weight, and, on the other hand, the percentage of albumin in the milk in various animals with the following results. The human infant doubled its weight in 180 days and the percentage of albumin in the mother's milk is 1.88. The foal doubled its weight in 60 days and the milk contained 2.3 per cent. of albumin; the calf in 47 days with 4 per cent. of albumin; the pig in 18 days with 5.89 per cent.; the lamb in 10 days with 7 per cent.; the pup of the dog in 8 days with 8.22 per cent.; and the kitten in 5 days with 9.53 per cent. of albumin.

the milk. This law appears also to hold good for the development of the individual. Thus the amount of albumin in human milk on the first and second days after childbirth is 8.6 per cent.; from the third to the seventh days 3.4 per cent.; from the eighth to the fourteenth day and onward during the first three or four months 2.5 per cent., whilst in the second half year after childbirth it falls to 1.6 per cent., which is in correspondence with the generally falling rate of increase in weight of the infant. In a further series of researches Dr. Pröschner treats of the influence of climate on the composition of milk. He finds from a comparison of a large number of analyses that the milk of animals living in the south of Europe is poor in fat but rich in sugar, whilst the converse obtains in those of the north. The large percentage of sugar in human milk is, he suggests, an indication that man was originally an inhabitant of a warm climate.—*Lancet*, Oct. 15, 1898.

The *Ascaris Lumbricoides* as a Cause of Death.

VERMEULEN (*La Belg. Méd.*, June 23rd, 1898) reports the case of a child aged 2½ years, who became ill with anorexia and *malaise*. Some days later three ascarides were passed after a vermifuge, and the temperature rose to 102.2° F. Again two worms were evacuated; the child was somnolent but did not vomit. Later three worms were expelled by the mouth. The pupils became widely dilated; the fever continued; there was constipation unaffected by calomel and santonin, though castor oil produced a stool containing more worms. The abdomen became tympanitic and tender, and the child died comatose. The author thinks there can be no doubt that the worms were the cause of this illness. Recently Chauffard has described a typhoid form of lumbricosis, and Tauchon has collected 3 cases of it. P. Marie published a case in a man aged 54, where it was impossible to exclude enteric fever with certainty, and Loi one in an infant aged 6 years, where all the symptoms of meningitis were present. In the latter case the diagnosis was made by finding ova in the stools, typhoid fever being excluded by the serum test. All these cases recovered under treatment in spite of the gravity of the symptoms, but the author's case proves that death may follow even when the treatment is suitable and the diagnosis made early. Marie observes that in the case of worms quinine has no antipyretic action, while santonin has, even though its administration is not followed by the expulsion of the parasites, and considers this fact to be of importance in the differential diagnosis. There are three theories as regards

the etiology of the symptoms : (1) That the worms act mechanically by setting up pathological reflexes ; (2) that they cause a true infection by raising the virulence of the intestinal micro-organisms through irritation of the mucous membrane and perhaps through their excreta (Chauffard) ; (3) that the ascarides themselves are virulent. Chanson and Tauchou proved this by crushing the worms and injecting the juice into guinea pigs. Marie thinks that the two latter theories are alone worth considering, as it seems impossible that a few (in his case three) worms could produce such an illness by mechanical irritation.—*Brit. Med. Jour.*, Sept. 24, 1898.

A Second Attack of Syphilis.

TARNOVSKI (*Vratch*, No. 9, 1898) reports a case of reinfection by syphilis. In the beginning of September, 1886, a man, 30 years old, strongly built and with well-developed muscles, but of an active and neurotic temperament, came to him with two ulcers on the skin of the lower part of the left groin. The ulcers had thickened margins, and were accompanied by a painless swelling of the superficial inguinal glands. The sores were first noticed three weeks before advice was sought, and were the result of frequent intercourse with prostitutes. At the end of September—that is, seven weeks after the first appearance of the ulcers—the patient complained of evening headache, general *malaise*, profuse night sweats and feverishness. This was followed by a papular eruption on the sides of the trunk and the flexor surfaces of the extremities. Mercurial inunctions were prescribed at first, and later iodide of potassium. This treatment was continued from time to time for the different symptoms of syphilis, which finally disappeared in 1890. In August, 1897, on the fourth day, after impure sexual congress, two small sores appeared in the furrow behind the glans. These were diagnosed by the local doctor as soft chancres, and cauterised with carbolic acid. When the scab fell off the base and edges of the ulcers commenced to thicken, and the right inguinal glands to swell. The ulcers were treated with 25 per cent. solution of carbolic acid ; they soon healed, but the thickening kept increasing. The patient, however, considered himself cured. He drank wine, and led a free and active life. In the beginning of December (about three and a half months after the appearance of the chancres) he accidentally discovered a rash on his body ; after this several moist and thickened patches appeared on his penis. He then consulted Tarnovski, who found a moist papule about 2 cm. in diameter in the furrow behind the glans, in the same place where the

soft areas appeared in August. There was well-marked induration round the papula. The gland itself was studded with dry millet-shaped and lentil-shaped papules. In the right groin one could feel an enlarged gland the size of a walnut, firm, elastic, and somewhat tender on manipulation. The whole trunk of the body, and especially its sides, was covered with numerous scattered macule of syphilitic roseola; in some parts the spots were raised, and changed into papules. Along the spine there were several papules commencing to scale. Similar papules were present on the right palm. On the hairy part of the head there were a few crusts of superficial syphilitic impetigo. In short, the patient showed a characteristic polymorphous syphilide (primary rash). The patient was also seen by Drs. Yavine and Schapiro, of St. Petersburg, who had no doubt that they had to deal with a fresh syphilitic infection. It is also interesting to add that the patient's mother, who died of general paralysis, had several symptoms strongly suggesting that she was infected with syphilis previous to the birth of the patient. The latter, who was the ninth child, suffered when 7 years old from paresis of the right side of the body, which disappeared only after several years' treatment.—*Brit. Med. Jour.* Sept. 24, 1898.

"Electrocution."

THE use of electricity in the execution of criminals was introduced in the United States as a more humane as well as a more expeditious method than hanging, strangulation, or decapitation. In one or two of the cases in which it was first employed it was reported that the procedure was not altogether satisfactory, but it was understood that with further experience the method was found to work well. A painful doubt on the subject has, however, recently been suggested by Dr. Joseph Alan O'Neill, of New York, in an article in the *Atlantic Medical Weekly* of September 17, bearing the unpleasantly suggestive title *Who's the Executioner?* Dr. O'Neill was present at the execution of Martin Tamm in Sing Sing Prison on August 1st. After the convict had been secured in the chair with straps the warden made a sign and the electrician closed a switch. There was a lightning-like tetanic contraction of every muscle of the man's body. At the end of a minute the current was turned off, and the body sank limp in the chair as far as the straps would permit. Dr. O'Neill goes on to say: "There was a blowing sound like the neigh of a horse; saliva came from the now open mouth, and the carotid artery began to pulsate. Again the current was applied, and again the body

became rigid. For 30 seconds this second current was maintained ; then I was allowed to make an examination. The law does not permit any attempt at resuscitation, but the warden said I might make any reasonable tests to make sure that Thoru was really dead." The phonendoscope revealed neither respiration nor heart beat, but in the carotid artery Dr. O'Neill could feel a distinct thrill, which he thinks was probably caused by the gravitation of blood from the head to the trunk. There was a slight contraction of the left pupil on touching the cornea, and the cremasteric reflex remained active for half an hour. *Post-mortem* lividity appeared very soon in the dependent parts of the body. The man was apparently dead, but putrefaction was absent ; yet a necropsy was at once made. Dr. O'Neill concludes his article as follows : "The law requires the *post-mortem* mutilation. It is, in fact, a part of the penalty ; for as it reveals no cause of death and teaches nothing of interest to science, it is evident that its purpose is to complete the killing. If this is true, then that section of the law relating to the necropsy should be repealed at once. If the convict is dead he will stay dead, without the necropsy. If he is alive, then the necropsy is a crime that outrages all decency, a crime a thousand times more horrible than the homicide for which the convict forfeits his life. Humane motives undoubtedly promoted the enactment of the existing law, but as long as the clause requiring a necropsy before there are positive signs of death continues a part of the penalty, humanity will receive a shock from each succeeding execution. To be hanged, drawn, and quartered was the sentence of the Middle Ages. To be rendered helpless by an electric shock and then disembowelled by doctors before the body is cold, is the decree of our twentieth-century court. The physician is not expected to pass upon the merits of capital punishment, but the profession at large should protest vigorously against performing the legitimate functions of a braggan." The death sentence in this country used to run : "to be hanged by the neck till you are dead, and *after death* to be anatomised." The last part of the sentence, though nominally for the benefit of science, tended to make punishment more degrading. At the present day the prison surgeon, we believe, makes a *post-mortem* examination in order to satisfy the jury that death was instantaneous. This doubtless is the object of the necropsy on the "electrocuted" criminals. But if it is made, as Dr. O'Neill asserts, before the victim of the law is cold, it certainly looks as if those charged with the infliction of the death penalty were anxious to "sack sikkar."—*Brit. Med. Jour.*, Oct. 15, 1898.

CLINICAL RECORD.

Indian.

•CASES UNDER DR. M. L. SIRCAR.

1. *A Case of Dyspepsia after the continual use of Purgatives.*

Patient, a Hindu, aged 38, came to me on the morning of the 15th Feb. 1897, for the following symptoms: Vomiting of mucus, not of the ingesta, immediately after eating; twisting in the intestines; hot flatulence; pains along the sciatic nerves; vertigo. The history was that he had suffered from malarious fever for 7 or 8 years, for which he used to take purgatives very frequently. After recovery from the fever he has been suffering from the above symptoms for 5 years, and has derived no benefit from any treatment. The symptoms pointed to Aconite, and though it was a chronic case I gave him *Aco.* 6x in globules, 3 or 4 to be taken twice a day.

25th. He came to report that the vomiting has ceased, but the other symptoms were no better. Gave *Aco.* 30 gles. to be used in the same way.

5th March. Reported improvement in the other symptoms also. Continued *Aco.* 30. 29th. Better in every respect, except that the sciatic pains and vertigo were still lingering. Continued the medicine with which he went home some eighty miles from Calcutta, and did not return, which he would have done if he had not been cured.

2. *A Case of Cholera.*

27th Feb. 1897. Was called in the afternoon to see a case of cholera at Kulpighat, 67 Strand. The patient, a Hindu, aged 24, is a native of Mukundpur, near Diamond Harbour, where he was suffering from indigestion for some time. He came to Calcutta on the morning of Friday, the 25th inst. He took *papaya* fruit in the afternoon, and the diarrhoea from which he was suffering developed into cholera by midnight, with both vomiting and purging. Yesterday up to noon was under old school treatment. Since then has been under a homœopathic practitioner, who having left Calcutta, I was sent for. The symptoms at the time I visited were: thin almost watery stools, but much less frequent than before; incessant nausea, and vomiting ten to fifteen minutes after drinking water which he was obliged to take often on account of the intense thirst; pulse barely perceptible at the wrist. Thinking this might be an aggravation of the Arsenic which he in all probability had received from the homœopathic practitioner, I gave him *Ipec.* 6x in globules, a few (3 or 4) to be given every hour.

Report came to me at 10 p.m. that he was better, the vomiting having become decidedly less. Sent some *nihilum* globules.

28th. Report in the morning. Better in every respect, except that he has passed no urine yet. Sent *Canth.* 6x globules. Evening. Report; no urine yet; has passed two worms with stools. Ordered a small bit of camphor to be placed at the orifice of the urethra.

1st March, 9-45 a.m. Visited. Was glad to hear the patient has passed urine three times since last night; stools still thin, but feculent and yellowish; considerable thirst and burning of body. Gave him some *nihilum* globules, and ordered *Gangthal* soup with plain sago. He was well, in a short time, and I had not to visit him any more.

Foreign.

Cases of Acute Tonsillitis cured by Arnica.

By M. A. WESNER, M.D., JOHNSTOWN, P.A.

CASE I. November 1st, 1897, I saw Mr. G., aged 38 years. His temperature was 101; had swelling and tenderness at both sides of neck; pain in left ear when swallowing. Both tonsils were largely swollen, of a light red color, the swelling extending up to uvula and soft palate which were of the same color. He opened his mouth with difficulty; was thirsty but unable to drink often on account of the great pain the act gave him and the tremendous effort required for its accomplishment. He was unable to swallow solid food or liquid in small quantity. Arnica 6x., in water, cured in four days. No suppuration.

CASE II. I was called to see Mr. H., February 8th, 1898, aged 35 years. His temperature was 102; he was chilly; thirsty; unable to lie down or sleep; had swelling and tenderness at right side of neck. His right tonsil was light red and so enormously swollen that it reached across to its fellow on the opposite side. Soft palate and uvula were also swollen and of same color. Uvula was about as thick as an ordinary man's thumb. All had a puffy appearance. He was unable to swallow solid food or a small quantity of liquid, but with great effort he occasionally succeeded in getting down large quantities of liquid. I gave him arnica 6x., in water, every hour. Upon my arrival next day my patient's temperature was normal, and he had been able to lie down and sleep part of the night. His right tonsil was about one half reduced and the swelling of uvula and soft palate had disappeared. All symptoms of quinsy left in two days without suppuration.

CASE III. On the 14th of February, 1898, Mr. J., came to my office for treatment. He was feverish and chilly alternately; had pain in both ears when swallowing; headache; swelling and tenderness of neck; very painful swallowing. His tonsils were light red and so extensively swollen that they met. Uvula and soft palate were in same condition—I mean light red and swollen. He was given *arnica* 6x., in water with instructions that I would see him at his home next day. When I called the day following my patient was practically well. Nothing of his quinsy remained but a slight swelling of one tonsil. In answer to my inquiry as to how soon he began to improve after commencing the remedy his reply was that he felt the most decided change in three hours.

And it is scarcely necessary to add that there was no suppuration in this case.

Remarks.

The general impression prevalent among the laity is that all such cases must of necessity suppurate and discharge a certain quantity of pus before the patient can recover.

This absurd opinion is strenuously urged by the old school physicians who honestly and consistently acknowledge that they can make no change whatever in the progress, course and termination of tonsillitis with the use of medicine. We certainly admire their frank admission if nothing else, although we, the disciples of the immortal Hahnemann whom they choose to despise and ridicule, can present a far more creditable record and encouraging prospect to our patients. We can demonstrate to them that all cases are curable and can be aborted without suppuration if the indicated remedy is given at the proper time which is a record of triumphs unknown to other schools.

Here are the indications for *Arnica Montana*: Severe pain when swallowing which extends to one or both ears; unable to swallow solid food; can swallow large quantities of liquid with more ease than a small quantity but either is extremely painful. Mouth opens with difficulty; swelling and tenderness at outside of neck; one or both tonsils largely swollen and of a light red color; swelling has a puffy appearance and extends upwards and forwards involving the soft palate and the uvula which are also light red. In addition the patient is chilly; has fever; thirst; his voice is husky and indistinct; is unable to lie down in most instances; has soreness of muscles and a feeling of general malaise. Pay particular attention to the character of the swelling—its light red color, its puffiness and its general direction.—*American Medical Monthly*, Sept. 1898.

[The above cases are valuable inasmuch as they point to a novel use of Arnica. So far as its pathogenesis goes the drug has not produced any affection of the tonsils. It has produced swelling and pain in the submaxillary and cervical glands. Hence the indications given by the author are most of them clinical and not pathogenetic.—
EDITOR, *Cal. J. M.*]

A Case of Mammary Duct Carcinoma.

By THOMAS SIMPSON, M.D.

A lady consulted me about a hard swelling around the right nipple which gave her much concern, seeing that pains of a shooting, burning nature kept her awake half the night, and a sanious fluid exuded continually from the nipple. She remembered that her mother had died at the age of 55 from an affection somewhat similar, and was naturally anxious to know what steps should be taken to avert, if possible, so dire an issue.

I reassured her by saying I believed that an operation might possibly be averted by carefully-prescribed medicines.

I gave her conium 6 (from its action on glandular structures having been proved extensively over a prolonged period of time). In 14 days her general health had improved, and her weight slightly increased; the sallow hue of her face was less pronounced. Appetite improved, sleep better, discharge from nipple less. Encouraged by these signs of possible arrest of the retrograde progress I continued the conium in the 12th dilution, and to gratify her importunity an ointment of conium P. B. was applied.

These methods manifestly relieved her still further of the discomfort and distress which naturally accompanied a gradual increase in the extent and the hardness of the tumour which previously obtained, and the hæmorrhage from the nipple. One month later the marked diminution in the severity of the symptoms was so pronounced as to inspire hope, and so to improve her health.

Carbo animalis 6 was next prescribed and boric lint applied, because the symptoms seemed stationary; following this the state of her health improved, and the local symptoms subsided, especially the sanious discharge and the sleeplessness from pains. The 12th dilution next prescribed seemed to act with greater effect than formerly, all the signs of the disease (objective and subjective) remitting manifestly, and in five months from the first interview the appearance of the breast had regained its natural form and the discharge had entirely ceased.

Comment is unnecessary, excepting to urge a trial of well-indicated remedies in even pronounced forms of malignant disease, as well as in suspected and incipient forms of it, which so often come before us.—*Monthly Homœopathic Review*, Oct. 1898.

A Case of Writer's Palsy cured by Picric Acid.

By DR. H. V. HALBERT.

Miss H. , a stenographer, came to me for this distressing affliction, which interfered so much with her chosen profession. She had used the typewriter for years and, together with her stenographic duties, the index finger of the right had been continuously exercised. She noticed at first a weakness of the thumb and index finger so that she could not use a pen or pencil. Finally it became more difficult for her to strike the keys of the typewriter accurately, and some wrist drop was apparent. When I first saw her the finger was quite rigid and straight, she could not bend it or use it in the least, thus showing an extreme spasticity instead of a paralysis. She had tried many doctors and all forms of massage and electricity without the slightest relief.

As the patient was obliged to continue her vocation for the sake of a living, I did not offer a favourable prognosis. I commenced the use of the static current, applying the spark to the hand, arm and the region of the cervical vertebræ. Internally I gave picric acid 3x six times daily. For a while she continued the electricity and then I saw her no more. In two months I received a letter from her in which she said she felt she was cured. It appears she kept getting the prescription filled at the pharmacy and took it faithfully with the result mentioned.

I was also surprised to see the improvement in her general health. I have used the remedy very frequently in diseases of the nervous system, but never found such a perfect result in any of the palsies. This case shows that the power to rejuvenate and restore the trophism of a cell is also reflected to the fibre as well, and hence we may find it valuable in neuralgia and spasticity of these tracts.—*The Clinique*, Sept. 1898.

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THERAPEUTICS AS A SCIENCE.

I.

DEFINITION.

THERAPEUTICS, as understood in the present day, is the treatment of disease by drugs. This is the narrowest sense of the term, not justified by its etymology. It is derived from the Greek verb *therapeuo*, to wait on, to attend, to serve, to cure (take care of). Hence therapeutics should mean waiting on, attending on, serving, or taking care of, the sick, and should embrace doing whatever tends to restore him to health, that is, to heal him, or make him whole (hale), sound. The word heal curiously enough comes from an Anglo-Saxon word which means whole; and no word could better signify the function of the physician.

Thus therapeutics and healing (art or science or both), in their original acceptations, if not actually synonymous, are co-terminous. To attend on or serve a sick man must have for its object the restoration of his health, and this may be brought on by a variety of means, by the regulation of his food and surroundings, and by the administration of drugs.

The regulation of food, of clothing, of exercise, of the temperature, &c., from its obvious and easily understood character, soon lost its true importance, and was relegated to a subordinate position in the treatment of disease. Whereas the administration

of drugs, requiring knowledge not easy or rather most difficult to acquire, assumed supreme importance in, and was considered to be the most essential part of, treatment. Hence the division of the healing art into two branches,—hygiene and therapeutics.

There is another term which denotes the science and art of healing. It is **MEDICINE**, and is derived from the Latin *mederi* to heal. Its signification continues to be comprehensive, and includes both the branches mentioned above, hygiene and therapeutics, which also are respectively called Preventive Medicine and Medicine proper. Even here there is a tendency to restrict the term medicine to drugging.

PHYSIC is another word which has been made to signify medicine, as well as the science and art of administering medicine. It is derived from the Greek *physis* (or more properly *phusis*) nature, *physikos* (*phusikos*) natural, and means literally the science of nature or natural philosophy. How it came to be specially applied to medicine, it is not easy to see; unless it be that the natural philosopher or physicist in ancient times was also a physician, or that a knowledge of natural philosophy was essential to the physician, that is, that a man must be well versed in a knowledge of nature before he can be a successful practitioner of the healing art. However this might have been, the plural form of the word, that is, *Physics*, is now restricted to natural philosophy, and the singular form to medicine in all its acceptations. This use of the word, however, is getting obsolete.

It is not a little remarkable that our ancestors had no term for the science and art of medicine distinct and separate from Science of Life. The term *Ayurveda*, used by our ancient Risis, meant the knowledge or Science of Life, and included the science and art of healing. The latter was not spoken of as a branch of the former, but was taken to be synonymous with it.

Thus, in *Charaka Samhita*, the oldest Hindu work on Medicine, Life (*Ayu*) is defined as the union of the body, the senses, the mind, and the soul, and is called *dhári* (upholder), *jivitam* (living), *nityaga* (ever-flowing), and *anubandha* (continued existence); *

* अरीरेन्द्रवसन्तात्मसंयोगो धारि जीवितम् ।
नित्यनवातुपन्नस्य पञ्चादौ १।५९५ते ।

and that which treats of life, of its duration, and of whatever is salutary or prejudicial to it, is called Ayurveda.* This science is called eternal and sacred, having been first conceived by the Creator himself, and being the chief shelter of the healthy and the sick and conducive to the welfare of man's present and future existence. With this lofty and, we may say, philosophical description of Life and of the science which treats of it, mention is made of the three divisions of which the science consists, namely, a knowledge of the causes of disease, a knowledge of the symptoms of disease, and a knowledge of drugs for the treatment of disease.† From this it is evident that the ultimate object of the Science of Life (or Biology as we may call it in modern language) was the healing of diseases—by drugs, or therapeutics in the narrowest sense. This shows that the Hindus of old had a very exalted idea of the extent of a physician's knowledge and responsibilities. For a man to be a true physician he must be acquainted with the whole Science of Life. This view of the physician's qualifications is in accord with modern ideas, biology in its widest signification and in all its branches, (botany and zoology including anatomy, physiology and classification) being now included in the curriculum of all recognized medical schools.

Tracing it through the etymology of the names which have been given to the art which the physician practises, we have found the object of it to be the healing of diseases to which man is subject, and through the same source we have seen what high qualifications the physician, even in ancient times, was expected to possess. We shall for the present consider the intellectual side of these qualifications, which embraces a knowledge of life and a knowledge of whatever has bearing upon or relation to life.

It need hardly be said that it is only living beings which can

* हिताहितं सुखं दुःखमायुस्तस्य हिताहितम् ।
मानसं तच्च ब्रह्मोन्माधुर्बेदः स उच्यते ॥

† तस्यायुषः पुण्यतमो वेदो वेदविदां मतः ।
वक्ष्यते यन्मातृव्यायां लोकयोद्धमयोर्हितम् ॥
हेतुलिङ्गौषधचानं सुखादुपपत्तयश्चम् ।
निश्चलं यश्चतं पुष्पं पुनश्चेवं पितृमहः ॥

be called diseased, that it is only living beings, which can be subject to and be suffering from disease. The first subject that presents itself for consideration of the physician is the relation which disease bears to health. Though this seems to be a preliminary subject upon the precise determination of which the efficient removal of disease would seem to depend and certainly ultimately must depend, yet it is a fact that diseases have been treated and cured from the earliest times long before a correct knowledge of their nature was arrived at.

It is doubtful if the true nature of disease has been ascertained even in the present day with all its advances in anatomy and physiology. Disease is an abnormal condition of life however produced, and life itself is yet a mystery which remains unsolved if not insoluble. And so long as life is not understood, its genesis not explained, so long must disease remain un-understood. This is true so far as the ultimate fact of life and disease is concerned. But though life in its essence is unknown, the conditions of its origin, of its continuance through the stages of development, growth, and decay, and of its final cessation or death, are becoming more and more known; and *pari passu* our knowledge of the conditions of the origin and progress of disease is increasing.

It is not enough for the physician to know the true nature of disease, that is, its relation to health or life, in its normal condition; he must have a knowledge of remedial measures by which disease may be removed, that is, by which a living being when diseased may be restored to health; in other words, he must have a knowledge of the relationships of these measures to diseased conditions which they are known or calculated to remove.

These relationships, like all other natural relationships, must be constant and invariable. The discovery of these relationships being made, the physician will have instruments of precision wherewith to combat disease, and what is more, he will have the rule whereby to discover other instruments, if those already in his possession are not sufficient to meet disease in its varied forms, or new diseases that may arise in the course of time through the changes wrought in the conditions of living by an advancing civilisation. It is then that his art will be based upon science, and be free from the uncertainty of haphazard selection of remedies.

(To be continued.)

**SOME UNSUSPECTED SOURCES OF DANGER TO THE
HEALTH OF CALCUTTA, WITH ESPECIAL RE-
• • FERENCE TO THE SMOKE NUISANCE.**

INSANITARY from its natural situation on the verge if not in the midst of a pestilential swamp, Calcutta, by the exertions of its much but unjustly abused municipality, is being transformed into one of the best sanitated, if not one of the healthiest cities in India. The replacement of the open sewers reeking with pestiferous miasmata by under-ground drains which, notwithstanding their many sanitary defects and their necessary insanitary consequences, are a great improvement upon the former; the abolition of cesspools, misnamed tanks, which used to supply the citizens with water saturated with all sorts of inorganic and organic poisons and living germs, calculated to generate cholera and other deadly diseases, and their replacement by a system of water supply which has attained a high degree of efficiency and perfection and which, with proper and careful supervision and scientific application, may be made to furnish water of almost natural purity;—all these improvements have converted Calcutta from a most unhealthy into literally the most healthy spot in Bengal.

Notwithstanding this agreeable fact of its conversion into a healthy place by dint of sanitary improvements, the authorities in charge of the sanitation of Calcutta ought always to be on the alert for any indications of whatever may have a tendency to undo the work of the past by causing contamination of its soil and atmosphere. There is much to be done for the maintenance of what has already been achieved, and attention cannot be too energetically directed with scientific forethought to the two chief sanitary works we have mentioned above which have made Calcutta what it is. Both the Drainage and the Water Works require not only the most careful supervision to keep them in order, but demand the most anxious thought and the application of the most advanced scientific principles to prevent them from frustrating the very objects for which they have been constructed at enormous cost.

The initial mistake of combining sewage with drainage was perhaps inevitable. But the disastrous consequences which have already followed and are likely more to follow that mistake should never be lost sight of. It should never be forgotten,

for instance, that the enormous volumes of our sewage discharged into the Salt Water Lake are contaminating and poisoning the whole of that vast area to the east of the city from which the wind blows towards it for nearly half the year. It should never be forgotten that, notwithstanding all the care taken in the construction of the brick drains and the laying of the pipe drains, there must be leakage through them of sewage-saturated water into the soil of the city itself. And it should never be forgotten that though the comforts and conveniences of connected water closets and privies are unquestionable and tempting, their dangers in the shape of pollution of the air of dwelling-houses with sewer gases are equally unquestionable. The atmosphere of the streets shares the same fate, especially in the mornings when the drains begin to be filled with water displacing their gases.

Add to all this the flooding of the streets for hours during even moderate showers, owing to the incapacity of the drains to carry off all the water that falls as rain. Owing to the raising of the levels of the streets by thoughtless metalling, the ground floors of many old houses have become lower than the streets, and become flooded some times even more than these. The consequence is that these houses and others are becoming more and more damp year after year.

The soil of Calcutta is not only being saturated with liquid sewage, it is being saturated also with sewer gases, and the danger of contamination with these gases of the drinking water through defective soldering of the pipes is not an impossible contingency.

Is it to be wondered at that fevers and cholera which had remarkably diminished immediately after the introduction of the underground drainage system and of the water-works, should have after a time shown a tendency to increase more and more, and that the former should assume the typhoid type and, being occasionally accompanied with glandular swellings, simulate even the plague itself?

The water supply has to be guarded against pollution at its very source. The water is pumped from the Hughli at Fulta, only sixteen miles above Calcutta. The Hughli is a tidal river, the flood tide reaching as far as Culna. Any discharge of putrescent organic

matter or other poisonous soluble matter into the river below and above Fulta must, therefore, inevitably find their way into the water that is pumped into the settling tanks or reservoirs. No amount of filtration of this water through sand can free it wholly from such contamination, against which the authorities cannot take too much precaution. All tenderness to the owners of mills and manufactories on the banks of the Hughli, whose business leads them to discharge their foul waters and other refuse into the river, means, it should be remembered, wanton disregard of the health of the metropolis.

Another unexpected and unsuspected source of danger to the sanitary condition of Calcutta is what has been very appropriately called the smoke nuisance. One of our morning contemporaries the *Statesman* has, in a powerful leader in its issue of the 20th current, very opportunely drawn attention to this evil which is fast growing and threatening to be one of portentous magnitude. We endorse every word that is in this article, and the following extract from it will show that there is not the slightest exaggeration of the state of things that is prevailing :

From time to time we have called attention to the smoke nuisance which makes life in Calcutta at certain seasons of the year almost unbearable. Once more we would protest in the strongest terms against the official apathy which permits a certain section of the community to befoul the air all the year round, and at times half poison their fellows. This is no question of destroying the industries of the city and suburbs in order to increase the amenities of Calcutta life, or to spare the sensitive organs of over-nice people. The discomfort, the suffering, the injury to health and property that are caused by this constant pollution of the air we breathe, are no imaginary grievance. They affect every man, woman, and child in the place, including even the authors of the mischief, unless indeed they are happy enough to live miles away from their mills or factories. It is, we say, a scandal to the administration of the second city in the British Empire that the smoke nuisance of London and Glasgow should be allowed to be repeated here. In the summer the western sky is streaked with long heavy fuliginous streamers, trailing over Calcutta, befouling everything with which they come in contact, and depositing a variety of more or less poisonous by-products of combustion all over the city. In the cold weather these clouds of glory settle and settle, and combine with *busti* smoke and other delights to produce so colorable an imitation of London fog, that the belated wayfarer whom occasion keeps out of doors in the southern part of the town after sundown, may well rub his smarting eyes and wonder whether he be not once again groping his way down the Thames Embankment.

The municipality itself is responsible for a good contribution to this smoke nuisance. The chimneys of its pumping stations at Halliday Street, at Wellington Square, and at Bhowanipur, not to speak of the one at Talah, and of those of the incinerators in the south-east suburbs, are throwing into the atmosphere volumes of smoke charged with solid particles of coal and ash and the noxious gaseous products of the combustion of coal and refuse.

We have personal knowledge of the great inconvenience and discomfort to which the residents of houses in the neighbourhood of the Wellington Square pumping station, and of other houses similarly circumstanced in other parts of the town, are subjected from the causes here mentioned. In these houses it is difficult to keep the clothing and furniture clean, and the very food from being mixed up with coal dust and ash. And where the utmost precaution is not taken indigestion and diarrhoea are often the consequence. The respiratory organs are first and chiefly to suffer. We know for certain that respiratory disorders have been brought on where none existed, and already existing disorders have been aggravated, by matters with which the atmosphere is charged from the smoke of chimneys. The writer of the article in the *Statesman* has but given expression to the everyday experience of the observant physician when he says—"The unconsumed sulphur compounds and soot irritate the respiratory passages with sometimes fatal results to those who are old or feeble, or who suffer from asthma and kindred ailments."

Now the most serious question is, ought people to be allowed to pollute the atmosphere the purity of which is the first condition of life and health? The freedom of every man is limited by the restraint which must be put on his power to injure his neighbour, which term includes all his fellow-men, and to a considerable extent his other fellow-creatures. This restraint, it need hardly be said, should be compatible with his own existence. Thus with reference to the question in hand, we must remember that every one of us, by the acts of our breathing which is essential to the continuance of our life, is adding a poisonous gas to the atmosphere which is undoubtedly beyond a certain point detrimental to other human beings and creatures generally who breathe. But though no one should be prevented from breathing

yet each one of many who are breathing in a confined locality and are thus proving mutually dangerous may be made to leave that locality. Unless in extreme cases such coercion is not necessary, inasmuch as nature has made wise provision for the removal and utilization of the (to man) deleterious products of his respiration. Plants breathe in, to build up their tissues, what we breathe out to save our tissues.

. There is no such natural provision for the immediate removal and utilization of the solid particles and all the gases which are the outcome of the imperfect combustion of coal for industrial purposes. These particles and gases exert their deleterious influences on the health of man before their final disposal. Nor is there any possibility of artificial scavenging of the atmosphere. Hence there is no other alternative than to see, either that they do not enter the atmosphere where their presence would lead to injury to life and health, or, if that cannot be done, that the trades and industries, which necessitate the generation of smoke, be removed far away from the habitations of human beings.

The smoke nuisance may be said to be essentially a modern evil. It may be said to owe its origin since the time when steam began to be largely used as a motive power for purposes either of manufacture or of locomotion. And the Governments of the countries where steam is in such extensive requisition have wisely endeavoured by legislative enactments to control the nuisance. In England, the Public Health Act of 1875, declared as nuisances: "Any fireplace or furnace which does not as far as practicable consume the smoke arising from the combustible used therein, and which is used for working engines by steam, or in any mill factory dyehouse brewery bakehouse or gas work, or in any manufacturing or trade purpose whatsoever; and Any Chimney (not being the chimney of a private dwelling house) sending forth black smoke in such a quantity as to be a nuisance." The Railway clauses Act of 1845 enacted that "every locomotive steam-engine to be used on a railway shall be constructed on the principle of consuming and so as to consume its own smoke; and if any engine be not so constructed the company shall forfeit £5 for every day during which such engine shall be used on the railway." The smoke Nuisance Abatement (Metropolis) Act of 1853 made "provision for the abatement of

nuisance arising from the smoke of furnaces in the metropolis, and from steam-vessels above London Bridge." According to the Amending Act of 1856, "all steam-vessels plying to and fro between London Bridge to the westward of the Nore Light were brought within the provisions of the former Act.

The Government of this country has not been idle. In January 1863 an Act, in imitation of the English Acts, but strangely enough with omissions in favor of Railways, was passed from the Bengal Council, "to abate and prevent Nuisances from the smoke of Furnaces in the Town and suburbs of Calcutta," and its first section runs as follows :

Every furnace employed or to be employed anywhere within the town and suburbs of Calcutta in the working of engines by steam, and every furnace employed or to be employed within the same town or suburbs in any works, or in any buildings for the purpose of trade or manufacture (although a steam-engine be not used or employed therein), shall be constructed or altered so as to consume or burn the smoke arising from such furnace on and after the first day of July 1864.

And if any person, on or after the said first day of July 1864, and within the town and suburbs aforesaid, shall use any such furnace which shall not be constructed or altered so as to consume or burn its own smoke, or shall so negligently use any such furnace as that the smoke arising therefrom shall not be effectually consumed or burned, or shall not use the best practicable means for preventing or counteracting such smoke, every person so offending, being the owner or occupier of the premises, or being a foreman or other person employed by such owner or occupier in such furnace, shall, upon a summary conviction for such offence before any Magistrate, forfeit and pay a sum of not more than fifty rupees, and upon a second conviction for such offence the sum of one hundred rupees, and for each subsequent conviction a sum double the amount of the penalty imposed for the last preceding conviction.

Provided always that this Act shall not apply to any locomotive engine used wholly upon any railway in the suburbs of Calcutta, nor to any steam vessel which is not employed as a ferry-boat plying from any one place within the said town and suburbs of Calcutta to any other place within the said limits.

These Acts, both English and Indian, are very stringent, and yet, how is it, that they are dead letters? London and Glasgow are still proverbial for their smoke and fog, which last we may say, is the offspring of the former. The complaint in manufacturing towns in England is that the vestries are lax in enforcing the existing law, as Sir William Richmond has very recently bewailed in a vigorous letter to the *Times*. The belief is that the provisions of the law are of too complex a character to secure unanimity in their interpretation, and the consequent difficulty of securing a conviction. We doubt if any attention has ever been paid to the smoke which is every day almost making

life more and more unbearable in Calcutta. Is this due to the fact that the law has left a loophole of escape from punishment by the words "as far as practicable and possible"? The Bengal Act has the following section distinctly saying that "the words 'consume or burn the smoke' as used in this Act shall not be held to mean 'consume or burn every particle of the smoke,' and the Magistrate before whom any person shall be summoned may remit the penalties enacted by this Act, if he shall be satisfied that such person has so constructed or altered his furnace as to consume or burn, *as far as possible*, all the smoke arising from such furnace, and has carefully attended to the same, and consumed or burned, as far as possible, the smoking arising from such furnace."

It is true, it must be admitted, that no smoke-consumer has been yet invented by which all the smoke from a furnace can be consumed, that all the devices that have been made can only "palliate the nuisance and make it less intolerable than before," and that, therefore, the law was bound to recognize this fact and to prevent people from being punished for failing to accomplish an impossibility. While we admit the force of this view of the question, we do not see any reason why the utmost possible palliation of the nuisance should not be demanded and enforced. We do not know if any prosecution has, since the passing of the Act in 1863, been at all instituted against anybody for creating smoke nuisance, and unless this is done we cannot say if the law as it exists would be sufficient to fulfil the object for which it was enacted. We are in perfect accord with our contemporary when he says that "until heavy fines, or other pains and penalties known to the law, are exacted from mill-owners who pollute the air, the nuisance will continue and grow. If need be, the law should be amended in the direction of additional stringency."

A warning from Government as a preliminary measure is worth trying. The Calcutta Electric Supply Corporation should have this warning before their monster chimney vomits forth huge volumes of smoke and thus conspires with its neighbour the Water Works chimney to render life unbearable for some distance around.

REVIEW.

An Abridged Therapy. Manual for the Biochemical Treatment of Disease. By Dr. Med. Schuessler, of Oldenburg. Twenty-fifth Edition, in part Rewritten. Translated by Prof. Louis H. Tafel. Boericke and Tafel, Philadelphia, 1890.

(Concluded from p. 423 of last No.).

Dr. Schuessler cannot believe that large or small doses of the cell-salts given to healthy persons can develop in them morbid symptoms similar to those of actual diseases, such as puerperal fever, typhoid fever, &c., and yet he believes and bases his therapeutic system on the belief that in disease there is a deficiency of those salts in the cells. "In determining," says he, "the dose of a biochemical remedy, the quantity of a morbid product cannot be considered as the determining factor. A very minute deficit of common salt may, *e. g.*, cause in the cells of the epithelial layer of a serous sac a very copious serous exudation, and a compensation of molecules of common salt corresponding to this minute deficit may cause the reabsorption of this exudation." If the administration of a minute, almost infinitesimal, quantity of a salt may reach the diseased cells and readjust or equalize the deficiencies in them of the same salt, may not its administration in healthy persons disturb that equilibrium? May not even a large dose do the same? And may not this disturbance be in the direction of deficiency or redundancy according to the dose administered? May not the administration of one salt cause a deficiency of another by uniting with the acid of this latter and thus causing its displacement from the cells?

The deficiency is, according to Dr. Schuessler, "owing to the functions of cells or their pathogenic excitation." Pathogenic excitation is a vague term and unless its nature and source are known we cannot have a definite idea of what it does or produces. It seems, Dr. Schuessler did not feel the necessity of this knowledge of the nature and source of pathogenic excitation. He had a theory about it independent of this knowledge, and this was enough for him. What need of fact when fancy could be made to take its place? "When a pathogenic irritation touches the cell," says he, "its function is thereby at first increased, because it endeavours to repel this irritation." But when,

in consequence of this activity, it loses a part of its mineral materials for carrying on its function, then it undergoes a pathogenic change." Then he quotes Virchow approvingly that "the essence of disease is the cell changed pathogenetically," with reference to which assertion we may observe that it does not convey any real meaning, for paraphrased it becomes, "the essence of disease is disease."

The theory put forth by Schuessler about the *modus operandi* of pathogenic excitations or irritations does not appear to us to cover all the facts of genesis of disease. Assuming that the cell is the starting-point of disease in every case, is it in every instance that its functional activity is increased? May it not be that in some instances that activity is diminished and even suspended from the beginning? And whether that activity be increased or diminished or suspended are we sure that this change in the activity of the cell is necessarily and invariably followed by a diminution or deficiency of the constituent mineral salts of the cell?

Schuessler always speaks of a deficiency of the cell-salts as at least a concomitant, if not the cause, of disease. He never thinks or suspects there might be a redundancy. "The biochemical method," says he, "supplies the curative efforts of nature with the natural material lacking in the parts affected, *i. e.*, the inorganic salts. Biochemistry endeavours to correct the physiological chemistry when it has deviated from its normal state. Biochemistry in a direct mode reaches its end, which is: supplying a deficiency."

The non-recognition of the excess or redundancy of one or more of the constituent cell-salts in disease is a great defect of Schuessler's biochemistry. If there is likelihood of deficiency of the salts in some diseases there is likelihood of redundancy in others. If in pathogenic *excitation* there is a deficiency, in pathogenic *depression* there may be a redundancy; and it is not likely that both conditions can be remedied by the same procedure which is based on the principle of supply. If the principle of supply is applicable to the one, the opposite principle, that of withdrawal, must be applied to the other. How is this to be found out? It is easier by far to supply than to withdraw.

Again, if there is a deficiency or redundancy of more than one

salt, or if there is a deficiency of one and a redundancy of another, how is this to be determined, and if determined how to be treated?

Admitting, with Schuessler, that "the inorganic substances found in the blood and the tissues suffice for the cure of all diseases that are at all curable," we may well ask the question, has our chemistry exhausted the analyses of the blood and the tissues as regards inorganic substances? Is there nothing more to be discovered than what have already been discovered? There might be others than these, in quantities too minute for detection by our rude methods. But their minuteness ought not, according to Schuessler's own views, to argue their unimportance in the economy. "The insufficiency of Schuessler's system," Dr. Hering has very shrewdly said, "will be proved as soon as the spectral analysis will be made use of by physiologists, to find out what elements are contained in our body even in millionths and billionths of grains. Besides this, neither are all the tissues mentioned by him, nor all the functions of our tissues. In his list of cures, hardly one half of the diseases of men are mentioned."

It is impossible, as we have said, to understand the reason of the attitude which Schuessler assumed towards Homœopathy after having practised it successfully for fifteen years. He not only disclaimed all indebtedness to Homœopathy for the indications of his remedies when in point of fact, as has been shown, they were derived from whatever provings there were of some of those remedies and of the provings of the components of others; but, in the matter of the small dose which was a discovery exclusively Hahnemann's, he does not even mention the name of Hahnemann. He gives his readers to understand that he got his inspiration from the agriculturist and from physiological considerations. Thus he says: "The constitution of the cell depends on the constitution of the nourishing soil immediately surrounding it, just as the prosperous growth of a plant depends on the quality of the soil within the reach of the fibres of its roots. The agricultural chemist speaks of '*the law of the minimum*' according to which the nutritive substance of which there is a minimum in the soil must be supplied as the manure required for the plant. The agricultural chemist uses for this only three substances as

manures, either nitrogen in combination (ammonia), or *Calcium phosphate* or *Potassa*. The other nutritive substances required by the plant are contained in sufficient quantities in the soil." The language here is not quite clear, and the example of the agricultural minimum is unfortunate. Does the author mean that because the agriculturist supplies only three out of many nutritive substances he acts on the *law of the minimum*? But admitting that he means that the agriculturist supplies only a small quantity of the three nutritive salts to a soil which has any how become exhausted of them, there is a vast difference between the minimum of the agriculturist and that of the biochemic physician.

After this preliminary he goes on to show that "*the law of the minimum*" is also applicable to the biochemical substances by the following example: "In the nourishing soil of the bones in a child suffering from rachitis in consequence of disturbance in the motion of the molecules of *Phosphate of lime*, there has arisen a deficiency in this salt. The quantity of *Phosphate of lime* intended for the bones, which cannot reach its destination, would become redundant in the blood, but that it is excreted with the urine. For the kidneys have the function of providing for the right constitution of the blood, therefore, of excreting every foreign and every *redundant* constituent. After the disturbance in the molecular motion of the nutritive soil has been equalized by means of minimal doses of *Phosphate of lime*, the redundant *Phosphate of lime* may find its way into the normal current and the cure of the rachitis may thus be effected." Here we have mere words and a number of assumptions but no real explanation of the action of the minimal dose.

Further on he says: "The use of small doses for the cure of diseases in the biochemical method is a chemico-physiological necessity. If we desire to convey into the blood, *e.g.*, some Glauber's salt, this is effected not by giving a *concentrated* solution of it. This would only act within the intestinal canal, causing a watery diarrhoea, and with these evacuations it would leave the organism." Here an attempt is made at an explanation of the action of minimal doses but only by a number of egregious mistakes. It is a mistake to suppose that all the tissue salts in concentrated solutions act as Glauber's salt (Sodium sulphate). It is a mistake to suppose that Glauber's

salt or any other similarly acting salt acts only within the intestinal canal. They cannot act at all unless they enter the blood-current through the capillaries of the intestinal mucous membrane, and it is a great mistake to suppose that the whole of the salt leaves the organism with the evacuations they induce. A part does remain in the circulating current, and must be present in the intercellular fluid, undergoing in both considerable attenuation.

The action of minimal doses is a fact, but the mode of that action is yet shrouded in mystery. No explanation has yet been offered, which may be considered satisfactory, and Schuessler's explanation certainly is not. His whole system is unsatisfactory. It is preposterous to suppose that the diseases to which a living organism is subject, and which are curable, can be cured by a few of the mineral salts which enter into the composition of the tissues and fluids of that organism. Even the twelve originally recognized as essential biochemic remedies are now, after the lapse of a quarter of a century, reduced to eleven. Schuessler, on the authority of Bunge that *Calcium Sulphate* does not enter into the constant constitution of the organism, has declared that "it must disappear from the biochemical system," although he has admitted that it "has, indeed, been successfully used in many diseases!"

We think the judgment pronounced by Hering on Schuessler's method a quarter of a century ago, that is, just when the method was first given to the world, still holds good: "His (Schuessler's) bold attempts to shorten therapeutics may be of great use in many cases. Certainly not one of our experienced practitioners will drop his old and well-known friends to run away with a coquettish girl. But as all of us meet with hard, and apparently incurable cases, where we do not succeed, it is allowable in such cases to go by Schuessler's indications. In this way we will increase these and also get new symptoms. Provers will be found, and instead of reducing our *Materia Medica*, our treasures will be increased, and new polychrests be added. The more trustworthy our characteristics, the shorter will be our labor and the greater our success." It is melancholy to see how some of our experienced practitioners, abandoning their old and faithful love, are running away with this coquettish girl sprung from Schuessler's brain.

EDITOR'S NOTES.

• **Ether and Chloroform in Parturition.**

Dr. Hensen (*Arch. f. Gyn.*, Vol. LV, No. 1, 1898) prefers the use of ether to chloroform in parturition for the reason that the effect of ether upon the uterus subsides after from five to twenty minutes, allowing the uterus to resume its contractions, while chloroform keeps up its paralyzing effect for a much longer time, thus delaying the rapid expulsion of the fetus and favoring post-partum hemorrhage. —*American Medico-Surgical Bulletin*, Oct. 25, 1898.

• **Human Ear as a Means of Identification.**

Miss M. A. Ellis contributed a paper to the British Association on the human ear as a means of identification. She pointed out that the helix, or outer rim of the ear, and the general shape of the pinna, or whole outer ear, were the most useful for purposes of identification. Ears do not change shape after childhood, although they enlarge slightly after middle life. From the varieties of 64 pairs of ears, many belonging to individuals noted in art, science, and literature, printed from life by Miss Ellis, it has been found that the right and left of each pair of ears usually vary in shape. —*Scientific American*, Oct. 22, 1898.

• **Rare. Foreign Body in the Bladder.**

At a Meeting of the Medical Society of Magdeburg, Dr. Hobs (*Munch. Med. Woch.*, p. 804, 1898) demonstrated a foreign body which he removed from a man's bladder by operation. The body consisted of a nail twelve centimeters (five inches!) long, which the man had introduced into his urethra about ten months previously, and which slipped into the bladder. Around the nail there had formed a stone of the size of a hen's egg, which consisted of phosphates, and of which the point was imbedded for about an inch in the vesical and paravesical tissue. Lately the man had suffered severely from purulent cystitis and incontinence of the urine. After operation permanent catheterization was kept up for three days, then the bladder was injected twice daily and the man made a rapid, uninterrupted recovery. —*American Medico-Surgical Bulletin*, Oct. 25, 1898.

• **The Disinterestedness of Dr. Calmette.**

Dr. Calmette, Pasteur's well-known pupil, who was recently appointed as chief organizer of the Pasteur Institute at Lille and who has won much fame by his researches into the question of immunity for serpent venom, has made another discovery of a more purely commercial nature. By this discovery he was enabled to manufacture alcohol very much purer and stronger than is usual at a distillery and at the same time much more cheaply. He sold his secret to a large factory near Lille and very soon realized the handsome sum of 250,000

francs. This sum he has handed over absolutely to the Pasteur Institute, over which he presides, although he is not personally a wealthy man. This act of munificence, which has been noticed solely by the medical press and ignored by the political journals, is considered as a protest against the recent action of Dr. Behring.—*Lancet*, Nov. 5, 1898.

The Danger to the Eye of Ligature of the Common or Internal Carotid.

SIEGRIST (Heidelberg Congress of Ophthalmology, August, 1898) gives two cases: (1) Ligature of the common and internal carotid for hæmorrhage following an operation for carcinoma of the tongue. Sudden blindness on the side of the ligature, presented the features of embolism of the central artery of the retina. Section six days later; ascending thrombosis from the site of ligature, and extending 6 mm. into the ophthalmic artery. Central artery blocked near its origin by an embolus, the latter being overlaid with a thrombotic mass. The retinal changes concern the inner layers. Infiltration advancing from periphery to centre of cornea, with small central ulcer and peculiar changes in the epithelium. (2) Pulsating traumatic exophthalmos. Ligature. Blindness on the same side embolic in character. Five months later atrophy of the papilla, choroidal vessels all visible, partly normal, partly sclerosed; fine pigmentation of retina. After a year and a half the macular region showed no sclerosis, but still fine flecks of pigment; in the upper part of the fundus the choroidal vessels were completely sclerosed, and the retinal pigment was heaped up in masses around this area.—*Brit. Med. Jour.*, Nov. 19, 1898.

Poisoning by Stramonium.

Dr. Shaw reports a case of a woman, of 53, who took by mistake a teaspoonful of some antiasthmatic powder, which was found to consist of stramonium-leaves (*Brit. Med. Jour.*, 23, IV, 1898). In about three-quarters of an hour the mouth became exceedingly dry and burning; the drinking of water did not alleviate this burning in the least; the eyesight became blurred, with a peculiar sensation of swelling in the eyes. Everything lifted appeared to the patient exceedingly heavy. There was a great deal of excitement, resembling delirium tremens; the flow of ideas was very rapid and she talked so fast that only at times was her speech intelligible. The delirium and hallucinations were of a mirthful character, but illusions and delusions were absent. The eyes were bright and staring, the pupils dilated and absolutely insensible to light; but the face was markedly pale, not anxious, and there was no clammy perspiration, the skin on the contrary being perfectly dry. There was incoordination in the lower extremities, but sensation was perfect; power of deglutition at first seemed absent, but if prevented from spitting out what was in her mouth she swallowed it. The author used the stomach-pump

freely, then gave her amyl nitrite and hypodermic injections of digitalis; finally he administered hypodermically $\frac{1}{3}$ of a grain of pilocarpine and after that the patient improved rapidly.—*American Medical-Surgical Bulletin* Oct. 25, 1898.

Fatal Case of Wasp Sting.

About two months ago I had an urgent summons to go and see Miss S., aged 24, who had been stung by a wasp in the throat. When I arrived she was just recovering from a fainting fit. Soon afterwards she was seized with pain in the stomach and violent vomiting. Under treatment, however, she soon recovered from this first attack.

A few days ago the same patient, whilst attending to some flowers, had the misfortune to be stung by a wasp a second time, on this occasion on the hand. I was again summoned by the father, who informed me that his daughter had been stung and was dying, which statement, unfortunately turned out to be but too true, as she expired a few minutes after my arrival at the house. On making inquiries I elicited the following facts:

That a few minutes after being stung her mother noticed that her face was very red. She next complained of feeling numb all over, and losing her sight, after which she fainted away. These symptoms of numbness and blindness, I should have mentioned, also occurred in her first attack. Her face from red turned suddenly pallid, and she expired in about twenty-five minutes from the time she was stung. From all accounts she was a strong healthy girl, though of a neurotic temperament, and was perfectly well the same morning. As well-authenticated cases of death due to syncope from wasp sting, etc., I find are rare, I desire to place this case on record.—*Brit. Med. Jour.*, Nov. 5, 1898.

The Age of Niagara Falls.

The age of Niagara Falls, as indicated by the erosion at the mouth of the gorge, was the subject of a paper by Prof. G. Frederick Wright, read at the recent Boston meeting of the American Association. The late Dr. James Hall early noted the significant fact that "the outlet of the chasm below Niagara Falls is scarcely wider than elsewhere along its course." This is important evidence of the late date of its origin, and it has been used in support of the short estimates which have been made concerning the length of time separating us from the Glacial period. A close examination made by Prof. Wright this summer greatly strengthens the force of the argument, since he found that the disintegrating forces tending to enlarge the outlet and give it a V-shape are more rapid than has been supposed. As the result of his investigations, he concludes that a conservative estimate of the rate of disintegration for the 70 feet of Niagara shales supporting the Niagara limestone would be one inch a year, with a probable rate of two inches a year. But at the lowest estimate no more than 12,000 years would be required for the enlargement of the

upper part of the mouth of the gorge 1000 feet on each side, which is very largely in excess of the actual amount of enlargement. Some of the recent estimates, therefore, which would make the gorge from 30,000 to 40,000 years old, are regarded as extravagant. According to Prof. Wright, the age of the gorge cannot be much more than 10,000 years, and is probably considerably less.—*Nature*, Nov. 3, 1898.

Labour Complicated by Parasitic Twin.

SHAVER (*Richmond Journal of Practice*, January, 1898) publishes the report of a labour where the monstrosity recalls the case of "Posterior Dichotomy: a Three-legged Boy," described and figured in the *BRITISH MEDICAL JOURNAL*, of June 11th, 1898. A primipara, aged 18, appeared to be pregnant of twins, but two hearts could not be detected by auscultation. The presentation was occipito-anterior; the maternal parts were very dilatable. After the head was born labour was delayed and a hand was detected presenting. This was replaced and the shoulders were born, when another delay occurred, the thighs being flexed and the feet presenting along the trunk. The hips were finally born, and the child was found to be closely attached to another, which was finally delivered. The first child, the "autosite," was a girl, the parasite an acephalous monster attached by a broad base occupying the region from pubes to sacrum in the autosite, the nates being obliterated. The parasite was much the larger, and Shaver distinctly states that it possessed a penis and testes—possibly clitoris and inguinal ovaries, since the sex is, according to the experience of others, invariably identical in twins of this kind. The monster seems to have been thrown away, we must note, after a bold flap amputation; it had two feet and one hand, but no arm nor leg. The funis was common to parasite and autosite. The rectum of the living child was found about half an inch from the anus, where it gave off branch gut to the parasite; this was cut and stitched and the wound closed. The child was neglected and died on the fourth day.—*Brit. Med. Journ.*, Oct. 29, 1898.

Maassage and Movements in Injuries of Joints.

In many text-books of surgery the treatment which is still advocated for a sprain or dislocation is the fixation of the injured joint, and this treatment is usually based on the propositions, firstly, that fixation relieves the pain; secondly, that the rest prevents inflammation of the joint; and, thirdly, that it favours the repair of the ligaments. The stiffness which is so prone to follow any of these joint injuries is often very long-lasting and difficult to cure. Of late years there has arisen a tendency to treat sprains and luxations by more energetic methods, and a paper which sums up well the arguments in favour of the active treatment has recently appeared in *La Clinique*. It is by Dr. Lucien Tiberghien, of Brussels, and he points out that although rest relieves the pain the total amount of the suffering which has to be endured is by no means lessened, for the stiffness which succeeds is

very painful to treat, while early and gentle massage, far from being painful, is very soothing. The stiffness resulting from injury to a joint is chiefly due to the organisation of the exudations which take place; these bind together the tendons and their sheaths, cause contraction of ligaments, and may even form adhesions between the articular surfaces; but if massage has been employed and early passive movement of the joint has been allowed the exuded materials, both leucocytes and serum, are carried off by the lymphatics and only sufficient is left to repair the damage which has been done. The degree and extent of the movement to be permitted vary somewhat with the joint affected and the extent of the lesion, but in all cases the ultimate result is that the articulation is freely and painlessly moveable in a much shorter time than if it has been kept carefully at rest.—*Lancet*, Oct. 29, 1898.

Recovery of H. R. H. the Prince of Wales.

It is with much satisfaction we are enabled to inform our readers that His Royal Highness the Prince of Wales has now made an excellent and, we may really say, complete recovery from the severe accident which he met with in July last, and after the interval which has elapsed of more than four months the cure may be reasonably considered permanent. It will be remembered that while descending a spiral staircase the Prince missed his footing and the extreme effort which he then made to recover his balance caused a rupture of the insertion of the left quadriceps extensor muscle which tore away with it at the same time the upper portion of the patella. At present the nature of the union which has taken place leaves little or nothing to be desired. The fragments of bone were separated by a considerable interval which gradually became reduced and the gap is now completely filled with strong fibrous material which shows no sign of stretching and has throughout been carefully prevented from yielding. Massage of the limb and passive movement of the joint were begun at a very early stage, and have been followed by the happiest results. The knee readily bends to considerably more than a right angle and the power of active extension at the joint is very good indeed. The Prince can readily go up and down stairs, and can walk with ease and comfort and with a scarcely perceptible halt which is, moreover, only due to the slight embarrassment to the joint movement caused by the light splint which he is wearing and will continue to wear for a few weeks longer as a matter of precaution. So far as the injured limb is concerned His Royal Highness will be able to use it in all his many occupations as well as he did before he met with an accident which is not infrequently followed, as we know, by serious consequence to the usefulness of the extremity.—*Lancet*, Nov. 26, 1898.

Transmission of Toxins from Fœtus to Mother.

CHARRIN (*Gaz. des Hôp.*, Aug. 25th, 1898) relates some experiments which he performed to determine the possibility of the transmission

of toxins from foetus to mother. Laparotomy was performed on a pregnantⁿ rabbit, and 1 c.cm. of diphtherial toxin was injected into 4 of the embryos. The rabbit aborted on the third day, and died on the fifth. In 7 experiments of this kind the toxin traversed the placenta and poisoned the mother in 4 cases; 2 died of peritonitis, and 1 survived without protective inoculation. Charrin then tried protective inoculation by injecting the soluble products of Loeffler's or Nicolaier's bacillus; but spite of minimal doses, the animals quickly died. In another set of experiments he injected 3 c.cm. of pyocyanic toxin divided among 5 embryos. On the fifth day the rabbit aborted, but survived. Eight days later he injected an active preparation of bacillus pyocyaneus into the mother's vascular system, the dose being 1 c.cm. Two control rabbits inoculated at the same time died on the third and fourth days respectively; the first rabbit survived eleven days. In another experiment the prepared rabbit survived twenty-three days, while the control animals died in fifty-seven and six-two hours respectively. From these and other similar experiments the author concludes that toxins deposited in the foetus, either directly—that is, artificially—or through the spermatie cell of the father (a possibility demonstrated by the history of syphilis) can be transmitted to the mother. When, owing to difficulties in placental dialysis, the mother receives only a small dose or only certain portions of the bacterial secretions, the result is a condition of immunisation, as illustrated by Colles's law. The mother, on the other hand, may transmit to later offspring the characters she has had imparted to her through the first foetus from the father of the latter; and this may be the case, even if the later offspring have a different father. Charrin suggests that these facts afford an explanation of those vagaries of heredity known as *telegony*.—*Brit. Med. Jour.*, Nov. 19, 1898.

Sulphonah Poisoning.

WIEN (*Berl. klin. Woch.*, September 26th, 1898) relates a fatal case of subacute poisoning in a woman, aged 32, suffering from paranoia. The patient received mostly three doses, each of 0.5 g., at intervals of an hour and a-half on each of thirty-one days, with occasional intermissions. The urine was examined daily, and the patient had been treated previously with about the same doses with no ill effect. When the sulphonah was discontinued the patient had become quiet, but this was not the result of any sulphonah narcosis. Her general condition was good. Thirty-six hours later the symptoms of sulphonah poisoning appeared. They consisted at first of gastric symptoms, with pain and vomiting, and later paralysis and hæmatoporphyrinuria were noted. It appears to the author probable that the poisoning was due to a cumulative action. Besides the ataxia there was paralysis in the arms and legs, probably due to a peripheral lesion. A notable fact in this case was the late appearance of the hæmatoporphyrinuria, which occurred eight days after the onset of the intoxication symptoms. Albuminuria and other evidence of a toxic

nephritis appeared later. The pulse-rate fell towards the end to 68 as a result of changes in the myocardium. At the necropsy a toxic nephritis and cystitis were found. The heart muscle showed degenerative changes and the pericardial sac contained an excess of fluid. The author maintains that the great danger in sulphonal poisoning lies in the irreparable changes found in the heart. In the stomach there were small hæmorrhagic erosions, and the organ presented an hour-glass contraction due to old ulceration. Nine-tenths of the cases of fatal sulphonal poisoning have occurred in women. Although the number of cases of poisoning by sulphonal is small considering the frequency with which it is used, yet precautions must be taken. The use of this agent must be as limited as possible, and intermissions of even four or five days are too short. The author thinks that when symptoms of poisoning have already appeared, transfusion—or, failing that, infusion—of saline solution should be tried. Camphor should be used in case of the least threatening of cardiac failure. Efforts should be made to promote the excretion of the sulphonal by diuresis, etc.—*Brit. Med. Journ.*, Oct. 29, 1898.

Functions of the Optic Thalami.

The October number of the *Archives de Physiologie* contains an article giving an account of some recent researches made by M. Shellier and M. H. Verger on the functions of the optic thalami. The deep position of the thalami renders them difficult of access and it is not surprising that differences of opinion in regard to their function should exist, and that whilst Fournié, Ferrier, and Lemoine came to conclusion that there were sensory troubles after destruction of the optic thalami, Nothnagel failed to find any defect in the general sensibility of the body, but noticed that animals in which the thalami were destroyed on both sides seemed to have lost the sense of the position of their limbs, since without being paralysed they allowed them to remain in any position in which they were placed. M. Shellier and M. Verger determined to make some further researches with improved methods of investigations, with the object of ascertaining with greater exactness the effects of injury to this region of the brain. They selected the dog and adopted the plan of bipolar electrolysis, in which fine needles were made to penetrate the substance of the thalami and a current of a mean strength of 10 milliamperes was passed. In none of these animals were any symptoms of meningitis observed, and the necropsy in each case showed that the destruction of tissue was small (of about the size of a grain of maize) and sharply defined. The animals were allowed to recover from the operation and tested systematically for some weeks. It was found when examined from eight to ten days after the operation that motility and sensitiveness to heat were always intact. The sense of the position of the limbs and the tactile sensibility were always manifestly affected. At the conclusion of a fortnight the disturbances of sensibility had entirely disappeared, which M. Shellier and M. Verger regard as the most important outcome of their observations. In two cases there were marked and permanent visual troubles, but they were unable to

determine whether there was complete unilateral blindness or a crossed hémianopsia. They satisfied themselves that the optic thalami have no influence on the voluntary movements of the animal operated on and that there were no compulsory or forced movements. Their sensory rôle is undeniable, but the thalamic anæsthesiæ, like cortical anæsthesiæ, do not include sensibility to pain and are transitory in duration—circumstances which support the view that the functions of the cerebral ganglia have similar if not identical functions to those of the convolutions of the brain.—*Lancet*, Nov. 5, 1898.

Circumstances, is not so generally appreciated as it should be, and attempts which might be successful are not made. Lately we published three cases in which the severed external ear was successfully replaced. In one (Dr. Brown's) the circumstances were anything but encouraging. The ear had been bitten off by a horse and was found lying in a stable yard. Neither surgical instruments nor antiseptics were available: a common needle and thread had to be used. In the other two cases (Dr. Purcell's) the surgeon adopted the ingenious plan of keeping the ear warm and endeavouring to restore the circulation by hot salt bags. We do not know of any other instances in the attempt to restore severed parts in which this had been done. To what extent it is useful is difficult to say; at any rate, it is rational. Several cases of union of severed finger tips are recorded. In the *Johns Hopkins' Bulletin*, Oct.-Nov., 1892, Dr. Finney has published a case of successful suture of severed finger-tips after seven hours. The middle finger was cut off just below the last joint through the phalanx, the ring finger at the root of the nail. The raw surfaces were freshened and the tips were attached each by four sutures. Dr. Finney used antiseptic dressings but not solutions, because bichloride of mercury and carbolic acid produce a thin layer of coagulation necrosis. The wounds united by first intention. In a recent number of the *New York Medical Journal* appears an account of the following case, published in the *Louisville Medical Monthly* by Dr. John Cooke Laurences. A coloured man in using a heavy axe cut through his shoe and severed the metatarsal bone of the first toe through the head, completely disarticulating the toe, and also cut off the second toe in front of the metatarsal joint. He was seen four hours afterwards. The shoe and sock were cut away and the second toe was found separated, whilst the first was hanging by a mere string of skin every muscle and vessel being cut. They were united by interrupted sutures which included the tendons. A dressing of iodoform and boric acid, equal parts, was used and a splint was applied. The iodoform had to be discontinued because it proved irritating. Union by first intention occurred over more than half the wound and there was but little pus where granulation took place. On the third day sensibility was present in both toes and in a week the patient could move them a little. Finally they were strong, movable, and sensible, and except for a little tenderness the foot was as good as ever.—*Lancet*, Oct. 22, 1898.

CLINICAL RECORD.

Indian.

A Case of Empyema.

By Dr. M. L. SIRCAR.

Abdus Sattar, Mahometan, aged 18, resident of Dhobapara (Mudiali) near Garden Reach, about 5 miles from Calcutta, was brought to me on the morning of Tuesday, the 27th September last. He was suffering from fever of the remittent type for the last 34 days, with aggravation in the afternoon. There was much emaciation and considerable dyspnoea. On examination the whole of the left side of the chest was dull on percussion. There was just a slight respiratory murmur at the apex of the left lung. The intercostal spaces were as it were filled up and almost bulging as if from fluid pressure from within. There was much cough but no râles in the right lung. Heart beats exaggerated and visible. Considerable bulging of the precordial region. Can lie only on the left side; slightly jaundiced tint of the conjunctiva and of the skin, but no enlargement of the liver. Tongue slightly furred.

I diagnosed the case to be one of pleuritis of the left side with effusion filling up the whole of the pleural cavity, causing shrinking of the whole of the left lung, and probably also pericarditis with effusion. I gave *Bryo.* 2 x.

29th Sept. Report was that the patient was better, fever and cough and dyspnoea were less. Continued *Bryo.* 2 x.

30th. Report was brought in the morning that the cough was worse, but in other respects much the same. Thinking the increase of cough was due to an aggravation of *Bryo.* 2 x, gave *Bryo.* 4 x.

2nd Oct. Report of strong fever yesterday. Sent *Aco.* 2 x.

4th. Fever less but cough worse. *Bryo.* 6 x.

8th. Patient brought in the morning. A swelling, about the size of a small orange with distinct fluctuation, was observed about 3 inches below left nipple. The dullness of left side was the same as before. Fever was less, but cough no better. The swelling appeared to me to contain pus and not watery fluid as I had at first thought. I prescribed *Sulph.* 30 in the hope of causing absorption of the fluid whatever it was, and also to allay the cough which was very troublesome.

13th. Report came that the patient was better as respects the cough, otherwise much the same. Continued *Sulph.* 30.

14th. Patient's father reported that the swelling had increased and become more fluctuating. As my own health did not permit me to visit the patient at his house, and as I thought it too risky to bring him over to mine, I asked the father to have the swelling explored by a medical friend of mine who resides in his neighbourhood, and to make a small incision if there be pus.

17th. Report was that the swelling was explored and incised yesterday, as I had directed, with the result that about 4 pounds of pus had come out. Stopped medicine.

19th. Report that the discharge through the opening made is pure pus, and about $\frac{1}{2}$ lb. daily. Patient feeling better. No med.

26th. Patient brought to me in the morning. Found pus freely discharging in considerable quantity through the opening. Patient was better in every other respect; fever and cough were less, and breathing easier. But respiration was not fully established. To check the suppurative process, I gave *Sil.* 12 x, which was continued till the 4th November, after which, the improvement being stationary, I changed the dilution to the 30th centesimal which was continued till the 10th. But no further improvement following I again stopped all medicine.

18th Nov. Report was that the patient was almost the same, the slight fever hanging on still. Gave *Sulph.* 30. From this day improvement became rapid. The discharge ceased and the opening through which it was flowing healed up in a day or two. The fever and the cough disappeared in about a week. The appetite increased and there was great cry for more food than was allowed.

16th Dec. Patient brought this morning. I was glad to find him nearly all right, the fistulous opening quite healed, the respiration fully established in the upper and partially in the lower part of the affected lung, though still frequent, being 28 in a minute, the swelling over the pericardial region quite gone. Continued *Sulph.*, and ordered a bath to be given to-morrow.

21st. Patient brought. Found him better still. Stopped med.

Remarks.

It is difficult to say whether this was a case of suppurative pleuritis from the beginning, or of simple pleuritis with serious effusion taking on degenerative suppurative changes in the course of old school treatment. When the patient was brought to me thirty-four days after the commencement of illness, there was nothing to lead me to infer that there was pus in the pleural cavity. Taking the fluid which had filled the whole of the left side of the chest to be ordinary serous effusion, and having regard for the jaundice and the symptom that the patient could lie only on the affected side I prescribed Bryonia. It did some, but not much, good in the beginning. I had to use Aconite for the strong fever which had come on while the patient was taking Bryonia. Under Aconite though the intensity of the fever abated, the cough became more troublesome, and I had to use Bryonia again, but this time in a higher dilution. Though the medicine was used for four days, the morbid process that was going on in the pleura went on unchecked and declared its true character by the matter within pushing itself out through the intercostal spaces, evidently the fifth and sixth, and forming a fluctuating swelling. The fact of Bryonia failing to cause absorption of the effusion shows that it was purulent and not serous at the time the patient was first brought to me, whatever it might have been in the beginning.

If the diagnosis of empyema had been positively made at once, could we have used any medicine that could cause the absorption of so large a quantity as upwards of four pounds of pus? My experience with Hepar, Silicea, and Mercurius in such cases in the past does not

return an affirmative answer to the question. And it is doubtful if anything else, than what was done, could have been done that would have hastened the progress of the case, which, it must be admitted, was satisfactory. It is remarkable that Sulphur should have played so important a part in expediting the recovery. This shows that probably there was some constitutional taint which this prince of anti-psorics corrected. I must not omit to mention that I had to put the patient on a very restricted diet. I forbade all juicy and acid things. I kept him chiefly on milk and allowed him wheaten bread (chapatis) only when the fever had considerably abated. I have not yet allowed him rice, which I have found to be very prejudicial in fevers, dropsies, and suppurations.

Foreign.

A Crocus Case.

By DR. MOSSA.

TRANSLATED FOR THE HOMOEOPATHIC RECORDER FROM ALLG. HOM.
ZEIT., JULY 1898.

An unmarried lady of 42 years, short of stature and well supplied with fat, has had much to suffer from her menses which appeared at irregular intervals, often 2-3 times a week and sometimes very profuse. Owing to this she had become anæmic, with a decided weakness of the heart, together with congestive rushes of blood to the heart and the head, so that the face often takes the color of carration. This is attended with a high degree of nervousness, with extreme sensitiveness to the weather, a great mobility of the thoughts and of the tongue, desire for company and a tendency to exaggerate, so that if she does not make an elephant of a mouse (which she is as much afraid of as the cat is enamoured of, it), she would yet call a shower of rain a cloud-burst. Though on the whole of a bright temperament, nevertheless, having had many bitter experiences, she by preference looks at the shady side of life, is much interested in obituaries and accounts of murders and likes to read funeral discourses. Still her sudden transition from sadness to merriment is rather striking. Her appetite is good and she eats unusually often and much, and on account of feebleness of her heart, as she says, she takes several times a day some wine. The stool inclines more to diarrhoea than to constipation. She has had formerly actual hysterical "crises," owing to menstrual colic when the pains reached the ovaries and radiated into the extremities. Her sleep is very restless, with many often heavy dreams.

In the beginning of last April this young lady had some furunculous eruptions on the right cheek and also in the neck. These were not, however, allowed to mature and to dry up, but she sought to choke them off with collodion. But this led, probably through the absorption of the poison contained in such ulcers, to the continual new formation of such eruptions. Finally a feverish state set in, shudderings and chills in the evening and heat at night; the right cheek and the upper eyelid were swollen and dark red. At the same time the gums in the upper and lower jaws on the right side became inflamed; the teeth, which were much decayed, became painful, the

tongue was coated white, so that she had much trouble in eating; then a violent thirst appeared compelling her to drink much water. With all this her menses, which in the last week had been spring, now set in again with a copious flow of dark, tough and ill-smelling blood. A pulsating headache was now also added.

Her state seemed to me, though not an erysipelatous inflammation, yet a phlegmonous one, springing from her furunculous cutaneous eruption.

Therapy.

The patient was given some doses of the 30th potency of *Belladonna*. This remedy had, however, no appreciable influence. Whether a lower potency might have proved more effective? Still, when I viewed the psychic state of the patient, and when she also told me that pretty frequent diarrhœic stools had set in, and she had suffered during the last night much from the fact that her limbs, especially her arms, went to sleep; while the fever was less in the forenoon and more violent in the evenings, with a darker red on the cheeks; while the blood from the uterus continued to be of the above mentioned character, my choice fell on another remedy, *Crocus sativus*, and I gave the patient in the beginning five drops every three hours; the strength and frequency of the dose being partly due to the fact that she thought she could not do without repeated potations of wine every day, owing to her weakness.

The remedy was accompanied with good results; the feverish symptoms disappeared within twenty-four hours; the redness and swelling of the face diminished, so also the swelling of the gums, the tongue became clean, her old, good appetite returned, the diarrhœa ceased and the memorrhagia diminished in the course of a few days. The furuncles healed without any secretion, and after about 14 days, after the lady had already some time been out of bed and had been going out, there appeared a slight peeling off of the skin on the places which had been affected.

Additional Critical Remarks.

As to the diagnosis of the case, the decision whether this was a genuine or a pseudo-erysipelatous process is difficult, although the finally resulting desquamation inclines the balance to the side of erysipelas. Still we also find in some toxic remedies as *e. g.*, *Rhus toxicodendron*, that they may originate erysipelatous as well phlegmonous processes.

That which here determined my choice to *Crocus* was less the pathological anatomical substratum of the ailment, especially since our provings of this remedy have not as yet disclosed much. These provings only show with respect to the skin, "scarlet redness of the whole body—circumscribed red spots in the face, with a burning pain, a painful inflammation and suppuration of a contusion on the finger healed long before." Of course, if we were at liberty to consider the good effects of the remedy which it has unfolded according to experience as a suppurative agent in furuncles, panaritias, indurations, styes and chilblains the law of similarity with our case would be more plainly manifested.—*Homœopathic Recorder*, Oct. 1898.

THERAPEUTICS OF CONSTIPATION, DIARRHŒA, DYSENTERY, AND CHOLERA.

155. MAGNESIA PHOSPHORICA.

Constipation :

1. Stools torpid.
2. Constipation—of infants, with spasmodic pain at every attempt at st., indicated by sharp, shrill cry ; much gas and rumbling and flatulent colic.

Diarrhœa :

1. D., watery, with vomiting and cramps in calves ; with chilliness and pain in stomach.
2. Sts., loose, watery, with urging and expelled with force.

Dysentery :

1. Dysentery, with cramp-like pains, spasmodic retention of urine ; better by bending double, by warmth, by friction.

During St. :

1. Urging.
2. Pain in rectum.
3. Spasmodic retention of urine.

Rectum and Anus :

1. Cutting, lightning pains in hæmorrhoids, so severe as to cause fainting.

General Symptoms :

1. Illusions of the senses, forgetful ; dulness and inability to think clearly ; indisposition to mental effort. Laments all the time about the pain, with hiccough. Nervous headaches with sparks before eyes. Neuralgic pains in head, shooting, darting, stabbing, shifting, intermittent, always relieved by application of warmth. Headaches after mental labor.
2. Vision affected ; colors, sparks, dark spots before eyes. Photophobia, diplopia, dulness of vision. Pupils contracted. Orbital and supra-orbital neuralgias, worse on right side, relieved by external warmth.
3. Dulness of hearing. Deafness. Otalgia better from heat. Neuralgic pains worse behind right ear and from cold.
4. Loss or perversion of smell. Alternate stuffing and profuse gushing discharge.
5. Prosopalgia, especially of the right side, better from warmth, worse from cold, touch, opening the mouth.
6. Spasmodic stammering. Trismus. Tongue generally clean ; or coated white ; or bright red with rawness in mouth. Teeth very sensitive to touch, to cold air and water.
7. Spasmodic constriction of throat on attempting to swallow liquids, with choking sensation. Swallowing painful.
8. Sensitive to acids and averse to coffee. Craving for sugar. Hiccough with retching day and night. Regurgitation of food, of coagulated milk, bile and slime. Burning, tasteless eructations, better from drinking hot water. Heart-burn. Pain worse from touch at epigastrium, renewed by drinking cold water. Cramps in stomach,

- pain as if a band were tightly laced around body. Flatulent distension of stom. with constricting pain. Nausea and vomiting.
9. Flatulent colic forcing patient to bend double, relieved by rubbing, warmth, pressure, accompanied with belching of gas which gives no relief. Incarcerated flatulence, rumbling and belching. Bloated, full sensation in abd.; must loosen clothing, walk about and constantly pass flatus. Cannot lie on back stretched out, has to lie bent over.
 10. Spasm of bladder. Spasmodic urinary complaints, spasmodic retention. Nocturnal enuresis. Vesical neuralgia after use of catheter. Gravel.
 11. Sexual desire increased. Menstrual colic, precedes flow, intermittent, worse on right side, relief from heat. Vaginitis. Ovaritis. Membranous dysmenorrhœa. Menstrues too early, with dark, stringy, fibrous flow. Swelling of external parts.
 12. Oppression of chest, shortness of breath. Constriction of chest and throat, with spasmodic, dry, tickling cough. Angina pectoris, neuralgic spasms. Palpitations.
 13. Neuralgic pains in back. Intercostal neuralgia. Dorsal spine very painful and sensitive to touch.
 14. Darting pains in shoulders and arms, worse in right. Paralysis agitans. Sciatica. Cramps in calves. Languid, tired, exhausted, unable to sit up. Twitching all over body during waking hours. Epilepsy from vicious habits. Writer's, piano and violin player's cramp. Tetanic spasms.
 15. Insomnia from exhaustion or lack of brain nutrition. Sleep disturbed by troublesome dreams, by pain in occiput and nape of neck.
 16. Intermittent fevers with cramps in calves. Chilliness after dinner, in evening, about 7 p. m. Chills run up and down the back with shivering, followed by a suffocating sensation. Severe chills about 9 a. m. Profuse sweat.
 17. Bad effects from injurious stimulants. All the pains of this remedy are worse on the right side, from cold, cold air, draught of air, cold washing, and from touch. "Best adapted to lean, thin, emaciated persons of a highly nervous organization, and prefers light complexion and the right side of the body."

According to Schüssler it acts best when given in hot water.

[The symptomatology given above has been compiled chiefly from the article *Magn. Phos.* in Drs. Boericke and Dewey's *Twelve Tissue Remedies*, 3rd Edition.]

Gleanings from Contemporary Literature.

THE HARVEIAN ORATION ON THE INFLUENCE OF CHARACTER AND RIGHT JUDGMENT IN MEDICINE.

Delivered before the Royal College of Physicians, October 18th, 1898.

By SIR DYCE DUCKWORTH, M.D., LL.D.,

Fellow and Treasurer of the College; Honorary Fellow of the Royal College of Physicians of Ireland; Physician and Lecturer on Medicine, St. Bartholomew's Hospital; Honorary Physician to His Royal Highness the Prince of Wales.

The honourable task which is imposed upon me to-day carries with it year by year a heavier burden and an increased responsibility.

I suppose that not fewer than 180 Harveian Orators have taken their places in this venerable College to carry out the project of that great man whose character and work we so appropriately commemorate on this festival of "the beloved physician."

When we reflect that the Orators have in nearly every instance come fresh to the task, have brought all their learning and literary skill to bear upon it, have, not seldom, in the past, clothed it in the purest Latin or the most classical English, and have no less enriched both the science and art of medicine by many of these efforts, the latest of that band may well invoke to-day some of the divine *enthousiasmos* to descend upon him as he sets out to follow the well-worn road which lies before him.

For myself, I may say that I yield to none in the interest which this duty has for me. As physician to the great hospital which Harvey served, as his successor in this College, *longo intervallo*, in the capacities of its Treasurer and Lumleian Lecturer, and as one of the eight Fellows, of whom only three now survive, who on this day fifteen years ago had the privilege of bearing his body, "lapt in lead," to its final resting place on the occasion of the translation of his remains at Hemel Hempstead, I find myself in particular sympathy with the object and circumstance of our meeting to-day.

Inasmuch as Harvey himself conceived the idea of this Oration, and definitely laid down the specific objects of it, I take it to be the plain duty of the Orator to obey his directions as loyally as possible, and in doing so I hope to find suggestive lines of thought for interesting and fruitful comment.

It is therefore my duty, first, to commemorate some of the greatest benefactors of this College; secondly, to incite our Fellows and Members to search out and study the secrets of Nature; and, thirdly, to urge a spirit of gracious courtesy and kindness amongst ourselves.

Harvey's primary consideration in this matter was, without doubt, to maintain the position and dignity of his beloved College, to foster its usefulness, and to keep it well abreast of the knowledge and learning of the day, so that by its influence it might impart a high and beneficial tone to the whole commonwealth of medicine in England. It was a high ideal but not too high for the best spirits in this College; and that, Sir, and no less, I will venture to say, is our ideal of its position to-day, a day in which we bear witness to many and radical changes of circumstances indeed, but in which, notwithstanding, we are still full of energy and good purpose, full of strong will and intention to hold that position, and, if possible, to add to it.

When Harvey enjoined upon the Orator the duty of commemorating the chief benefactors of the College the task was comparatively simple, but happily for us, thanks to the many benefits our Fellows have conferred

upon our commonalty, it would now be little less than wearisome to enumerate them, and allude even briefly to their varied benefactions. Few will demur to the statement that Harvey himself has been our greatest benefactor, whether by reason of the immortal lustre he shed upon us by his epoch-making discovery and teaching, or in respect of his substantial gifts and the bequest to us of his patrimonial estate. And no less, I would add, has been the boon he conferred upon this College for all time by the legacy of his personal character and qualities, qualities which none of his successors here can afford to forget or neglect.

Some of our greatest benefactors have not been, so far as I can learn, recently commemorated by our Orators. I will, therefore, claim your indulgence while I praise some of the good men to whom we are indebted for many of our privileges and opportunities of usefulness.

Foremost I place Thomas Linacre, our founder and first President in 1518. Let it be remembered that he designed this Corporation as well for the benefit of the public as of the profession. His wisdom, scholarship, and moral excellence rendered him, as has been said, "the ornament of his age." The College meetings were held in his private house, which he made over to the Physicians, and this was our first building, subsequently enlarged and used till 1614. The Lumleian Lectures were first delivered there.

As our learned Orator two years ago showed, Linacre may be regarded as "the intellectual grandfather of Harvey," and, in virtue of his translations of Aristotle and Galen, Dr. Payne placed him in the front rank of the medical humanists, pointing out, further, as we well remember, how out of these scholarly efforts grew the scientific movement which led to a truly fertile study of biology.

John Caius, nine times elected President, must ever be revered here for his beneficent efforts. He erected a monument in St. Paul's Cathedral to Linacre, whom he is held to have taken as his model in life. Caius began our volumes of Annals, and thus set an example to all succeeding Registrars, which has certainly been well followed to the present time. He instituted those "ensigns of honour" by which our President is distinguished amongst us. He was the first to introduce and teach practical anatomy in England. His scholarship and literary works, his method and precision, rendered him one of the most noteworthy men our profession has ever had in any country. We recall his efforts and munificence in refounding Gonville Hall at Cambridge, a College which has sent to us here, and still continues to send, some of our most distinguished Fellows and Members. Harvey's lines of thought and study were probably, as Dr. Payne suggests, much projected under the posthumous influence of the second founder of his College.

I merely mention the names of Caldwell and Lord Lumley, the founders in 1581 of our Lumleian Lectures, which Harvey held for forty-one years, and in which he expounded his original investigations on the circulation of the blood, and refer next to William Gilbert, sometime Treasurer, and President in 1600. Gilbert was the father of experimental philosophy in England. His famous work *De Magnete* first directed the mind of Galileo towards this and kindred subjects. He bequeathed to the College his library, globes, and instruments, most of which perished in the great fire of 1666, only one hundred and forty volumes of his books being rescued.

We commemorate Theodore Goulston as the founder, in 1632, of the Lectures bearing his name, which he designed to be delivered in each year by one of the four youngest Doctors of the College. He was excellent both as a physician and a scholar, and published translations from Aristotle and Galen.

Baldwin Hamely, jun., ranks with Harvey amongst our greatest benefac-

tons. He redeemed at his own cost the first College building in Amen Corner from a possible confiscation to the spoliators of Church property in 1651, contributed largely to the fund for rebuilding the College after the Great Fire, and wainscoted the Cœnaculum with Spanish oak, some of which now lines the walls of the Censor's room. In 1672 he made over for ever his Essex property of Ashlyns, an estate of four hundred acres, for its immediate benefit, including, by the way, an equivalent sum to that appointed by Harvey as honorarium of the Harveian Orator. Hamey's bust executed in 1684, and his portrait, both look down upon us to-day from these walls.

The agricultural depression of recent years has unfortunately affected the property so nobly bequeathed to us, but we still count it among our best certain sources of income.

We honour the memory of Francis Glisson, sometime President. Working on the lines of research laid down by Harvey, Glisson enlarged the knowledge of anatomy and pathology, and of the fruits of his studies we avail ourselves in daily practice. In thus wresting veritable secrets from nature, he was truly a benefactor to this College, and in respect of his work on the subject of rickets, still known as the English disease, a benefactor to his countrymen.

We may not omit to recall to memory the benefactions of the Marquess of Dorchester. A diligent and widely read student in the learning of his day, he was urged by Harvey and others to join this College in 1656. Two years later he was admitted to the Fellowship. Sympathising with the College in the loss of its library, and to show his respect for the profession, he bequeathed a collection of books of the value of £4,000, and contributed £100 towards the library. What a splendid example was this, and how little has it been followed in the last two centuries!

It is a fact to note here and now, for while we have had in recent times some noble instances of beneficence for the institution of lectureships and prizes, we have had hardly any gifts or bequests in the form of endowments for the College itself, endowments which I, as your Treasurer, can well certify are, more than is commonly believed, necessary to enable us to maintain our position, our fabric, and our library. Those of us who are engaged in teaching in this metropolis have to acknowledge that in these days the vital interests of higher learning make little appeal to the sentiments or generosity either of wealthy peers or commoners whose interests lie largely in London; while we take note of the fact that learned institutions in the provincial cities, void as yet of traditions, have no difficulty in arousing and stipulating such qualities in the hearts of their citizens, and enlisting from them noble gifts and benefactions.

This is a royal, but unendowed, College, yet it is constantly appealed to for advice by the several offices of the State, which thus receive gratuitous assistance for the benefit of the public.

I venture to think that a corporation such as this well commends itself to the consideration and substantial liberality of persons of wealth and patriotic intelligence resident in London. We might at least look for one such donor as Lord Dorchester in each century, and the College will welcome such benefactors, and not fail to commemorate their good deeds in the days to come, thus securing for them an enviable immortality.

Let us praise William Croone, Fellow of Emmanuel College, Cambridge, a Censor of this College in 1679, and founder of the lectureship which bears his name. With his memory we associate that of his widow, Lady Sadlier, who loyally carried out his wishes in providing a fund for the endowment of the lectures.

I turn now to hold up in honour some others of our distinguished Fellows, who by their attainments and splendid personal characters have

conferred undying benefits upon our College, and through it upon the profession of physic.

We are perhaps too much disposed to commemorate the scientific achievements of our great men, but let us not be unmindful of their characters. We know that genius is not always coincident with the highest moral or spiritual perfection, but when both these qualities are graciously combined in anyone, we feel that we are in the presence of a truly great man, of one who becomes a personage and a power for good in his day and generation. In such a profession as ours we can never afford to lose sight of the preponderating influence of character in all who join our ranks, and have to minister to every grade of our common humanity.

The training which enabled Harvey to be the man we know him to have been, the scholarly, wise, even-minded, and unworldly man, was that which best begets men of his mould. No mere technical or narrow training could by itself have produced him. His mind was expanded by wide reading, by travel, by knowledge of men and manners, by contact with the best spirits of his age, and by honest service to both rich and poor. His character, too, was formed, by deep religious sentiment, by a pure faith, and by gentle sympathy with his fellow men. He probably owed much, as many great men do, to the influence of his mother, for we know that she "was revered of her children."

In Harvey we have indeed a splendid model of the ideal physician, for not only have we to cultivate wide learning for its own sake, and its unquestionable influence upon us, but we have to see to it, if anything more assiduously, that we be men of the highest character. If the factor of high character was a great one in Harvey, and a gracious achievement in the seventeenth century, can it be doubted that it is a less imperative quality for us in the declining years of the nineteenth? I almost fear that in this restless age, so prolific in novel developments, there have opened out before us, more than is easy to steer clear of, many new channels wherein our moral integrity may be severely tried; and we may not seldom be tempted by a thoughtless and credulous public to deviate into courses which a strictly disciplined and finely tempered nature must ever recoil from. Yes, character must always be the mainstay and regulator of our conduct both amongst ourselves and towards the public whose servants we are. This requirement should receive emphatic recognition in every commemoration of Harvey.

We may well learn from the examples of Harvey, and from others which I shall venture to present to you, what manner of men physicians should strive to be.

If time permitted me, I might say much in praise of Arbuthnot, and Mead, of Hale, who left us five hundred pounds for our library, and of Freind; but I pause to commemorate William Heberden, author of the famous *Commentaries*, who by his learning, wisdom, and high character, left us a legacy of which the College may be proud. We may understand what manner of man he was if we realise what Dr. Macnichael wrote of him: "From his early youth he had entertained a deep sense of religion, a consummate love of virtue, an ardent thirst for knowledge, and an earnest desire to promote the happiness and welfare of all mankind. By these qualities, accompanied with great sweetness of manners, he acquired the love and esteem of all good men in a degree which perhaps very few have experienced."

Sir George Baker, President for ten years, was pre-eminent as a scholar and practical physician. His method of research on the nature of Devonshire colic has truly been pronounced to be a model for the conduct of scientific medical work.

Greatly appreciated and honoured in his time, his memory remains with us as a precious heirloom.

I speak next of Matthew Baillie, who delivered the Harveian oration exactly a century ago, but, so far as is known, did not publish it. Baillie was at that time 37 years of age, and engaged in teaching anatomy. We may perhaps assume that some anatomical exposition formed the subject of his oration, for, though he had then been in practice for twelve years, he did not begin to record his clinical experiences for twenty-one years afterwards, hoping to secure the leisure, which he never did, to elaborate this work. We may greatly regret this inability for his clinical records were admirable, and in advance of their time. Baillie's energies were therefore devoted to his patients when his powers and intellect were at their best, and, as is not seldom the case when physicians of eminence are eagerly sought for by numerous patients, but little time and strength were left to pursue fresh study, or publish newly-acquired experience. Of such men little remains to tell of their special skill, or of the qualities they exhibited in practice. Baillie worked seventeen hours a day. His benefactions to this College were great. He gave in his lifetime his private collection of morbid specimens, now in our museum. He bequeathed at his death, in 1823, a legacy of £300, with all his medical books, and the copper plates of his work on *Morbid Anatomy*. This book was the product of his industry in his uncle William Hunter's museum, and is of especial value, because in his later editions of it he described the clinical features of the cases which furnished the morbid specimens. He was thus one of the pioneers of the modern school of physicians, trained on the lines laid down by Harvey to prosecute research by observation and experiment. I conceive that Baillie may be regarded as the English Morgagni of his time, but he was even more lucid and precise than his great predecessor.

He left on record a very pregnant sentence, which we shall do well to remember, for we need its wisdom now as much as in the days when it was written. "I am persuaded," he remarks, "that the most successful treatment of patients will depend upon the exertion of sagacity, or good common sense, guided by a competent professional knowledge; and not by following strictly the rules of practice laid down in books even by men of the greatest talents and experience." Baillie acknowledged that he owed a good deal to Dr. David Pitcairn, of St. Bartholomew's Hospital, who was his firm friend. He learned from him that rheumatism was frequently the cause of disease of the heart, a fact that had not been previously recognised; also that ague was often not amenable to the influence of bark unless a course of calomel preceded it. An example of Baillie's sagacity is furnished by his conjecture that hydatids were animals, an opinion not held at that time.

To tell only of Baillie's scientific work, however, is to disclose but a part of his illustrious career. As Sir Henry Hallford said of him in announcing his bequests to the College, "justice cannot be done to his medical character unless that important feature in it which appeared in every part of his conduct and demeanour—his religious principle—be distinctly stated and recognised." As in Harvey so in Baillie: "ample converse with one of the most wonderful works of the Creator—the formation of man—inspired in him an admiration of the Supreme Being which nothing could exceed." He had indeed "looked through Nature up to Nature's God." His moral loftiness and his splendid character secured for him the deepest regard and affection of his professional brethren. We cannot neglect to commemorate and praise the man of whom so much could be said by a contemporary who knew him well. May Baillie's spirit and influence ever prevail in this College!

It would be a pleasant task to illustrate further the value and charm of high character when blended with learning and skill in our profession.

by the splendid examples of Henry Halford, Peter Mere Latham, Thomas Watson, and George Burrows, who have lived and laboured in our own day, shed lustre on this College, and earned places amongst our worthiest benefactors. But I must desist. By Harvey's direction I exhort you, and I exhort myself, to imitate such men as we have praised and commemorated; and in striving to this end we shall find help and inspiration if we look back and discover what manner of man the English physician was in the early part of this century. He was then regarded combining in his person—"not only the qualifications necessary for the successful practice of physic, but those which give dignity to his professional and respectability to his private character. He was distinguished by large attainments as a scholar; by sound religious principles as a Christian; by practical worth and virtue as a good member of society, and by polished manners as a well-bred gentleman." I trust that I may be pardoned for dwelling at some length on this part of Harvey's charge, since, to the best of my belief, it has not received prominent notice from my predecessors during the last 30 years.

I have next to repeat to you to-day our great master's injunction to "search and study out the secrets of Nature by way of experiment." It may truly be said that there is no lack of research in our time into the secrets of Nature. On the contrary, we are presented with a plethora of products emanating from our laboratories as the result of original inquiries; and our difficulty now is to discover their true value, and to find a fitting employment for the knowledge thus brought to light. The younger men amongst us are naturally attracted both to fresh research and the application of its fruits in clinical work. The elders, by their longer experience of humanity both in its well-being and its woes, are less eager to engage in experimental methods, and prefer to practice the hard-earned principles, which have gradually commended themselves to them. Do what we will however, truths either new or in fresh aspects move steadily onwards, and come in the fulness of time to occupy the field.

For our purposes as physicians the secrets of Nature disclosed in the laboratory require to be brought to the touchstone of clinical experiment and observation. If they be veritable facts they serve at once to advance our art by enlarging our powers to cope with diseased conditions; while, if the results of laboratory experiments have been incompletely wrested from Nature they will fail to aid us, though, perchance, they may prove suggestive. Of some, I think, it may be said that they fail *primo visu* to commend themselves to our common sense.

I will support this assertion by a reference to some recent laboratory researches undertaken in America. With a view to determine the influence of alcohol in morbid conditions, certain rabbits were inoculated with streptococci and other microbes, and then kept daily in a state of acute intoxication by alcohol. These animals showed the effects of the inoculation earlier and more severely than rabbits that were similarly infected, but not alcoholised. It has been proved that alcohol in poisonous doses exerts a negative chemiotaxis in the tissues, and it is also well known that a prolonged abuse of it by man causes widespread degenerations.

On the strength of these and similar phenomena, we are gravely warned from the laboratory that it must be disastrous to employ even moderate doses of alcohol in inflammatory conditions of disease in the human subject. I trust that we may keep our minds clear on this matter, and pray daily for a right judgment in all things. The laboratory operator may tell us that alcoholic stimulants are bad for this or that disease, but we shall maintain that they are sometimes very good for the patient. The practitioner who could allow the teaching of such experiments as I have quoted to influence his bedside treatment of patients suffering from acute diseases would, in my opinion, possess neither clinical instinct nor knowledge.

Yes, clinical instinct or intuition, for I maintain that none can be skilful in medicine without it. Call it sagacity, common sense, or what you will, the physician must possess it, and it must direct his methods whether they proceed from the laboratory or elsewhere.

The present danger in this matter, and it is a real one, is that the modern spirit of research tends in some degree to withdraw our attention from facts and principles which have been well established for us by the clinical acumen of past masters of our art, and which, in the best interests of our patients, we can ill afford to lose. New methods thus come to displace old ones, and not always with benefit. While keeping open minds we must not dispense with the caution that the new is not necessarily the true. I have ventured to utter this note of warning, but I would not for one moment be regarded as indifferent to the unquestioned triumphs of modern laboratory research in all directions. While Harvey clearly intended the Orator of each year to be in the first part of his discourse *laudator temporis acti*, he was the last man to plant himself down immovably, and rest content as though the goal of research had been reached. Knowing too well in his own day the evil and tyranny of stereotyped traditions and beliefs, and shrewdly foreseeing the necessity of perpetual progress in medicine, he definitely charged us to encourage fresh research; and therefore I will express my entire agreement with the words used by one of my esteemed predecessors and former colleagues eight years ago in his oration, "it will be an evil day for medicine and physiology, if ever the results of laboratory work are held to have no bearing upon medical practice." So long as we prudently avail ourselves of these results we shall not fail to add to the credit and beneficence of our art.

The so-called "practical" man is the one likely to avail himself of immature laboratory researches. As Professor Kanthack remarks: "Paracelsus is not yet dead. He snatches incomplete researches out of the laboratories and applies them in the treatment of diseases, the pathology of which he does not understand, and his influence makes itself felt in laboratories to the discredit of medicine."

What we greatly need now in England are research laboratories attached to our hospital wards and *post-mortem* theatres; and, no less, a select staff of fully trained investigators available for service throughout the empire. It is surely humiliating that we permit researches to be made for our benefit in various parts of our dominions by foreigners, while many of our countrymen and countrywomen, owing to ignorance and mawkish sentimentality, are doing their best to debar the training of such men in England.

The day in which it has been affirmed that there is a gulf fixed between physical and spiritual science is, I think and hope, fast drawing to its close. The temper of mind which leads, however honestly, to such a belief was not that of Harvey, nor indeed has it been that of the majority of the physicians of this college, whom we reckon amongst the most exemplary men of the past. I will venture to say, further, that it is not the aspect in which such matters are viewed here and now. As Willis observes, Harvey "seized every opportunity of giving utterance to his sense of the immediate agency of the Divine in Nature." He had no fear either of the processes or the results of research. We can imagine his approval of the following sentences in the *Religio Medici*, which he must have read: "There is no danger to profound these mysteries, no *sanctum sanctorum* in philosophy. The world was made to be inhabited by beasts, but studied and contemplated by man; 'tis the debt of our reason we owe unto God, and the homage we pay for not being beasts..... Those highly magnify Him, whose judicious inquiry into His acts, and deliberate

research into His creatures, return the duty of a devout and learned adoration. Therefore :

Search while thou wilt ; and let thy reason go,
To ransom truth, e'en to the abyss below ;
Rally the scattered causes ; and that line
Which Nature twists be able to untwine.
It is thy Maker's will ; for unto none
But unto reason can he e'er be known.

I will now refer to some researches which are of especial interest to us at the present time. They relate to bacteriology..

Starting with the conception of bacillary invasion of the body and the mischief thereby engendered, we naturally seek to destroy the germ themselves, and to undo their evil effects. Preventive medicine has for its aim the provision for us of an environment destitute of noxious germs, and is now achieving brilliant success in its progress ; but in practical medicine the physician has as yet to be satisfied with the endeavour to combat the ill-effects of such germs as have gained entry to the body by restoring to the natural standard that impaired vitality of the system which has enabled the bacteria to gain the upper hand. In the gravest cases, where bacillary invasion is widespread and rampant, as in the exanthemata, continued fevers, or pyæmia, we are in the presence of a dosage of toxins so overwhelming that it cannot be met by any adequate systemic resistance. We have, as yet, but few antitoxins available in practice though we look with confidence in the future to the fruitful labours of our laboratories for more of such agents.

Our present inability, then, leads us to consider the solitary factor on which we have to depend, and which is in each case to determine the issue. We term it the bodily, or tissue, resistance. What is the full significance of it ? The varying vulnerability of the individual is the factor before us in each patient, and we have to gauge this as nicely as we can. A toxic dosage which is certainly lethal for some is not so for others. The soil, so to say, is, or has some how become, favourable for the full development of the toxin in the one case, while in the other a degree of immunity exists which proves adequate to overcome the noxious dose, the soil being unfavourable for its full development. This is a matter of the constitution, a personal peculiarity or proclivity, either inherited or acquired. We call it the personal factor in each case, and therefore a physician never speaks of treating diseases, but of treating patients." Our knowledge of these personal factors is not large and, as yet, not very accurate.

Theoretically, we might conceive that the highest condition of health, with full integrity of the vital organs, should provide the fullest measure of immunity against all forms of bacillary toxin, whereas in practice we know that in the case of many of them, as in that of small-pox, cholera, or diphtheria, such immunity is of little or no avail, and that death may result from an overpowering multiplication of the specific peccant matter. Happily, we can now control the invasion of small-pox, and are able materially to counteract the diphtherial virus by "an antitoxin. And so with some other diseases.

Let us take the case of persons of that habit of body in which tuberculosis is apt to occur. We must regard them as presenting in some of their textures an appropriate *midus* for the cultivation of the specific bacilli. Could we shield them from all possible contact with these germs, we might fairly anticipate for them an average longevity ; though as I shall presently show, their textures constitute a bad soil for the inroad of most diseases. We know that under certain depressing conditions whether of climatic or other environment, the tissues even of fairly healthy bodies

lose their resistance and become a prey to the activity of various bacillary parasites, affording examples of sundry specific disorders. The problem before us in all such cases is to determine, if we can, the ratio of the force of resistance to that of the infection. Too often we have but to study the course of the disease in order to decide this point, and while treating the patient as we watch the contest, we sometimes discover evidence of inhibiting factors which prove adequate to check the mischief arising from parasite invasion. We have an example of this in the case of a proclivity to gout which tends markedly to check tuberculous invasion, and when this occurs to protract its course. There is reason to believe that some constitutions are practically invulnerable against the infections of tuberculosis, rheumatism, marsh poison, and others. We need to study carefully the causes of such immunity, since, as Harvey urged, many problems are to be solved by the investigations of exceptional cases.

The subject of scrofula is just now engaging the attention of some pathologists, and I propose to consider briefly some facts in relation to this condition. Koch's great discovery is supposed by many to have explained its pathogeny, and to have laid to rest the old disputes respecting the connection of struma and tuberculosis. In my opinion, this matter is by no means disposed of solely on a bacteriological basis. The presence of a few tubercle bacilli in the lympharia may be a factor in a given case, but their presence does not explain all that we recognise as constituting the obvious condition of struma. Our predecessors took a wider view of the matter, and we must still hold by some of their conceptions. The old belief was that scrofula—that is, an obvious manifestation of tuberculous disease—was a condition capable of transmission from parent to child. The indications of this state were then rightly determined, though we now interpret them differently, and were recognised by the ill-developed alar thorax, long, clumsy limbs, downy forehead and back, precocious intellect, and various other characteristics. But in 1846, Dr. Robert M. Glover pointed out that a careful distinction should be made between the predisposing constitution and the actual processes of strumous disease, between the *ens in potentia* and the *ens in actu*, and that thus such subjects widely diverged from health before tuberculous deposits took place. This brings us to our view of the matter to-day, since we now believe that the heredity of scrofula means no more, but no less, than an inherited feebleness of bodily textures in which tuberculous bacilli are apt to thrive if they gain entrance at any point; a vulnerability of tissues affording little or no resistance to such an invasion. This diathetic condition, or tissue-proclivity, is what is transmitted, and it may be the outcome of long antecedent inheritance from an ancestry in which tuberculosis has from time to time manifested itself. We know that direct transmission of bacillary tuberculosis is possible, but that is of the extremest rarity; also that direct transmission of tubercle from patient to patient is possible, but very difficult of absolute proof. There is reason, too, for the belief that infection may occasionally spread from the impregnated air of certain dwelling houses, leading to repeated cases amongst the occupants, provided they present the necessary degree of susceptibility.

Our present point of view could never have been reached till we were made familiar with the infecting parasite which, as we believe, alone brings us in face of the *ens in actu*. Eighty-eight years ago Matthew Baillie, by naked-eye observation alone, fully recognised the fact that the caseous matter in the lympharia and in the lung was identical, and now we have the explanation of it. It has been suggested that the condition of struma is dependent on a latent state of tuberculosis. This idea must be discarded if we regard all tuberculous activity as due to bacillary influence. Yet another theory, recently advanced, deserves consideration, as it opens

up a large question in bacteriology. It is urged that the condition of *anma* may be due to the presence in the body of tubercle bacilli in some early or pre-existing stage of development, which lead to other manifestations than those recognisable as tuberculosis. It is true that we have as yet but little knowledge respecting the exact biological position of the bacillus as commonly met with. In this condition it may possibly, as Woodhead and others suggest, merely represent one phase in the life-history of a higher fungus, allied to the actinomyces, which in certain stages of its existence leads a saprophytic life, its parasitic and pathogenetic phases being merely temporary. Without following up this suggestive hypothesis, some support is added to the idea of latency, or of an unrecognised, spore-like (resting stage) condition of the tubercle bacillus by the fact that cases of tuberculous outbreak sometimes supervene when caseous structures, or their vicinity, suffer from injury and a consequent lowered vitality. This occurrence points to the general dissemination of microbes from some distant focus of long past or forgotten disease, a development and migration, dependent possibly on some law of which we are at present ignorant. We have instances illustrating it in tuberculous meningitis following injuries to the head, in acute pulmonary tuberculosis following injuries to the testis, or to joints once the site of tuberculosis, or supervening on operations for tuberculous anal fistula, while in cases of Addison's disease—adrenal tuberculosis—injuries to the spinal column are sometimes suspected as the primary exciting cause.

In many of the enlarged lympharia of strumous persons neither tubercle bacilli nor caseous matter can be detected. This fact suggests that the tendency to react vigorously to irritants other than tuberculosis is a specific factor and quality of the lymphatic system in strumous individuals. These swollen lympharia doubtless present a good soil wherein tubercle bacilli may lodge and induce caseation, should they gain entry. This peculiarity of the lymphatic system in the strumous subject justifies us, in my opinion, in retaining in the old sense the term strumous inflammation without affixing to it, as we are now prone to do, the modern idea of tuberculosis. A strumous habit of body has doubtless a marked influence in modifying other morbid conditions which may occur in earlier or later life. The specific reaction to simple irritants, giving rise to strumous inflammation of lymphatic glands, which is common in youth, may sometimes remain in the adult and extend into advanced life; and the consequences of infections, as by scarlatina, or syphilis, or of irritation by gout, may be, and probably are, greatly modified by this tendency, giving rise to varieties in varieties in the several manifestations of these diseases. Thus, gout appears to have a tendency to linger in strumous subjects, and in its articular form to be attended with greater effusion than is commonly witnessed, while chronic tubal nephritis in such subjects is apt to be more than usually grave and uninfluenced by treatment. In short, the strumous diathesis is a bad one for the incidence of most morbid conditions.

Guided by our present knowledge of this condition, and of its relation to tuberculosis, we have at once suggested to us the supreme value of preventive methods in the management of strumous persons, and a *methodus medendi* for those of them who may become tainted with tuberculosis—to wit, an aseptic environment, good food, tonic remedies, and the free removal by the surgeon of disordered lymphatic glands. The beneficial influence of sea air has long been recognised in these cases, and it led over a century ago to the institution of an admirable hospital which, though its need and usefulness are as great as formerly, has somehow been suffered to languish for want of public appreciation and support. There is still a great need for small seaside hospitals to supply the requirements of poor patients, whether scrofulous or not, from this metropolis, and a

grand sphere of beneficence in this direction lies open to wealthy persons who will found and endow such institutions.

Amongst the secrets wrested from Nature in recent times is the discovery of the Roentgen rays, which have already proved of great practical use to surgeons for the detection in certain parts of foreign bodies and the exact determination of injuries to the skeleton. To the physician these scrutinising rays have, as yet, yielded little new information. Some varieties of renal calculi may sometimes be detected by them, but they afford no evidence of biliary concretions. We may, however, obtain indications of solid tumours and aneurysms, and of enlargement of certain viscera.

The therapeutic influence of these rays, if any exists, is, as yet, not determined. According to Rieder, of Munich, rays emitted from "hard," that is, high vacuum, tubes, kill bacteria. Such rays have the highest penetrating power. With the assistance of my colleague, Dr. Lewis Jones, I have examined radioscopically the lungs of several patients with tuberculous disease in various stages. The physical signs were well marked and readily detectible by ordinary methods of examination. The consolidated portions of the lungs gave no further evidence of their condition than a somewhat dark opacity, in mottled tracts, as compared with the luminous clearness of the unaffected parts.

Pleural effusions and pneumothorax are detectable, also pneumonic consolidations, and even early and limited areas of tuberculous deposit. In a recent report on this subject, MM. Bouchard and Claude, of Paris, declare that cavities can readily be discovered, and even enlargements of bronchial lymph glands.

The free movements of the diaphragm are well displayed, and are worthy of study, since it is found that this structure is lowered on the affected side in cases of consolidation of the apex of the lung, and rendered dense and immovable in diaphragmatic pleurisy. The most startling revelation by means of the x-rays is that of M. Kelsch, who declares that he discovered the existence of pulmonary tuberculosis in 51 out of 124 military patients who presented none of the ordinary signs of the malady. With respect to these observations, I will only say that I desire more detailed evidence, and, with it, confirmation.

It may be affirmed that radioscopy and skiagraphs tell but little to the physician that could not be ascertained by other methods of physical examination, but they certainly afford additional means for accurate clinical determination. Thus, in a case of mitral valvular disease with great cardiac hypertrophy, which I examined, the melon-shaped outline of the heart could be seen to bulk more largely in the thorax than the physical signs alone led one to believe. With improved apparatus we may come to better results than any yet attained, and, indeed, there may be other secrets in the domain of electrical science awaiting diligent research, of which perchance some may serve to revolutionise our present methods of clinical investigation.

Recent researches have been fruitful in respect of improved methods of vaccination, and of securing the absolute purity of vaccine lymph. Our Milroy lecturer of this year, to whom is due the credit of the work, has made us fully aware of the steps by which the bacteriology of both human and calf lymph has been studied. The result has been the introduction of glycerinated calf vaccine lymph which now meets every requirement, whether demanded by the scientific bacteriologist, the medical practitioner, or the reasonable portion of the public. The discovery appears to me to open up new fields of study. The influence of glycerine in destroying some of the most noxious microbes which may gain access to ordinary vaccine lymph in various ways, is very noteworthy and important, and I cannot but imagine that this agent may yet be found of more extended

usefulness as a bactericide. It is surely significant that some of the most virulent germs, including those productive of tuberculosis and suppuration, should they contaminate vaccine lymph, can be completely disposed of by this simple medium within three or four weeks.

We might have anticipated that such a discovery would have promptly disposed of most of the objections raised against the universal and compulsory practice of vaccination in England, did we not know that ignorance and prejudice, fostered by misrepresentation, and stimulated by paid agitation, require a strong hand for their repression. I speak advisedly of repression in a matter so vital as this, for there are varieties of ignorance and prejudice, some of which may safely be left for time and education to disperse. But here we are in face of a terrible danger, with accredited succour at hand, and the *mens medica* has no hesitation as to the course to follow.

And, Sir, what I am now about to say I venture to say in my private capacity, not committing the College to the opinion, although I know that it is shared by the majority of those whom I have the honour of addressing. I refer to the recent Parliamentary treatment of the Vaccination Bill, and I make bold to stigmatise it as a piece of panic legislation, a lamentable concession to ignorance, fraught with serious peril to the whole community, and unworthy of the duty and dignity of any British Government. By many of us, the Report of the Royal Commission on Vaccination was considered by no means too strong, but alas, it has been left to the countrymen of Edward Jenner, by sanction of what has well been termed "a tremendous experiment," to place England, hitherto foremost in State medicine, in a humiliating position before the world. Let us try and imagine to-day the contempt our Harvey would have felt for the men who so treated the revelations of truth sought out from Nature.

Of Harvey's skill as a practical physician we have little actual knowledge. This is mainly owing to the loss, by robbery and destruction, of his papers, including what must undoubtedly have been a storehouse of wisdom, his *Medical Observations* to which he occasionally makes allusion in various treatises. Our art is, not improbably, the poorer to-day for this untoward circumstance.

We know that his "therapeutique way" did not commend itself to the practitioners of his time, but we may fairly believe that his natural powers of insight, quickened by constant and accurate biological studies, suggested to him methods of treatment which his contemporaries, still held in the bondage of dogma and routine, failed to comprehend.

We may, however, form an opinion as to his clinical sagacity from the following sentence taken from his second Disquisition on the Circulation of the Blood, written to Jean Riola: "How speedily is pain relieved or removed by the detraction of blood, the application of cupping-glasses, or the compression of artery which leads to a part? It sometimes vanishes as if by magic." And then he proceeds: "But these are topics that I must refer to my *Medical Observations*, where they will be found exposed at length and explained." These facts are assuredly as true to-day as they were two hundred and fifty years ago, but I will venture to say that they are not adequately recognised in practice at the present time, and that, in consequence, some of our patients do not receive the prompt measures of relief which are available for them. The fierce controversies that have raged in this century on the subject of blood-letting have had for their result a serious neglect of its appropriate application. Guided by modern physiology with its teaching in regard to the physics of the circulation, no less than by our larger knowledge of morbid conditions, we have now a full warrant for the judicious employment of a practice which has always commanded the assent of the best clinical observers.

I have barely alluded to the scientific achievements of Harvey's long life. The full scope of his original discoveries is possibly even now imperfectly realised by those who connect his name merely with the doctrine of the circulation of the blood. Yet this discovery was but the final exposition of a fact, only disclosed to him after assiduous anatomical labour, directed and pondered over by his surpassing intellect. The steps which led to it slowly elicited not only the mechanism of the circular course of the blood, but the important fact, previously unknown, that this fluid was uniformly diffused and common to all the blood vessels of the body. Harvey, moreover, was the first to interpret correctly the physiology of the heart. His great work on *Animal Generation*, of which he was so diffident, and which was, as it were, dragged from him by his admiring friend, Sir George Ent, for the purpose of publication, would by itself have raised him to the first rank of biologists, although, as Willis remarks to complete and perfect such a task as this was impossible, even for Harvey, with the means at his disposal in the seventeenth century.

His minor treatises show, equally with his greater ones, the same originality and intellectual power.

• But I will not dilate on these topics. They have been often discussed before us here. I have preferred on this occasion rather to present to you the pre-eminent qualities of the mind and character of Harvey and to indicate the wholesome lessons which they afford for us. Harvey, himself, best summed up his great characteristic and guiding principle in a concise sentence that might even now be fitly inscribed on his sarcophagus, and it is this: "I avow myself the partisan of truth alone." That was the great moral of his life—truth eternal, ever to be sought for, to be held, and to be passed on. Let us ask ourselves if the orator of 1898 will be able to say that such was our ideal in the College at the close of the preceding century? We may fairly hope that he will not hesitate so to speak of us.

In my belief nothing will better tend to foster and maintain such a standard amongst us than the disclosure year by year in this place of the character and works of our immortal Harvey.

To have had him, to be summoned regularly to peer into his great mind to learn his methods, to be counselled by his wisdom, and to participate in the benefactions he so affectionately designed for us, constitutes indeed a high responsibility of which we must ever feel sensible in this his beloved College.

I have now, lastly in accordance with Harvey's direction "to exhort the Fellows and Members for the honour of the profession to continue in mutual love and affection among themselves, without which neither the dignity of the College can be maintained, nor yet particular men receive that benefit by their admission into the College which they might expect, ever remembering that *"concordia res parvae crescunt, discordia magnae dilabuntur."*

According to Willis, "every act of Harvey's public life that has come down to us is marked not merely by propriety, but by grace." I venture to think that we in this College are well knit together in mutual regard and sympathy, and thus maintain in these respects what Harvey desired should ever exist here. The concord we enjoy truly preserves our dignity for it adds weight to our deliberations and our efforts. It is a good deal the fashion in these days to deride dignity and its symbols, but wise men in all times have realised the risk which the loss of them entails, and have had cause to learn that when the symbol is dropped the reality also is only too apt to disappear.

But our life-work as the physicians of England is not done here. Our duties take us to serious and responsible ministrations to all classes of our

countymen. Our various positions demand that, with perfect freedom and independence, we bring our best knowledge and influence to bear on all human interests.

May we indeed be careful to carry with us in all the relations of life, professional and otherwise, the tone and bearing which are demanded of all who belong to this College!

May we strive to be like-minded with those whose memory we have just praised, and, not least, with the simple, unselfish, Christian gentleman before whose life-work and beautiful character we have once more bent to-day in solemn admiration! — *Brit. Med. Jour.*, Oct. 22, 1898.

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